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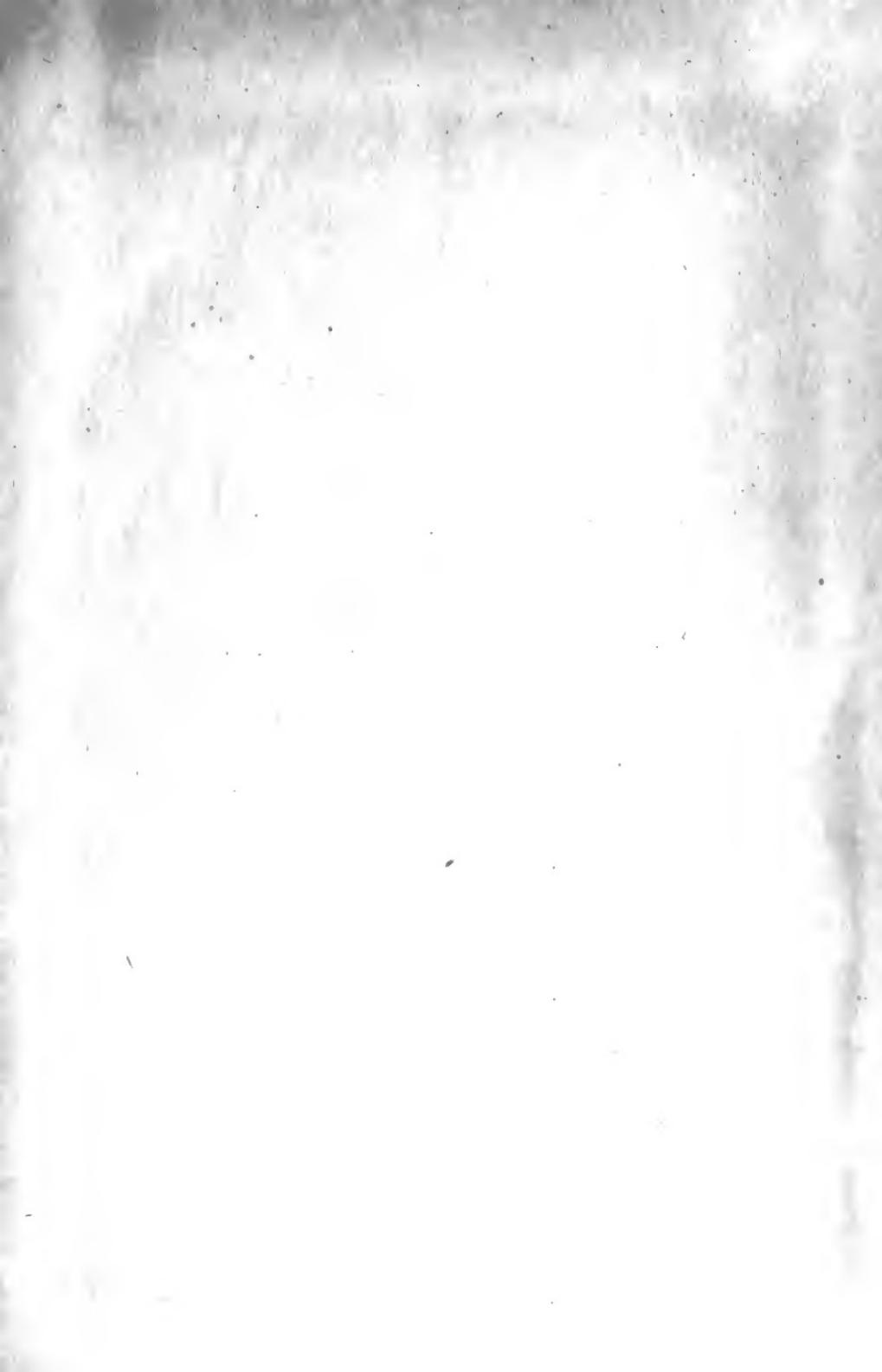
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SOUTHERN MEDICINE & SURGERY



Official Organ
of the
TRI-STATE MEDICAL ASSOCIATION
of the
CAROLINAS AND VIRGINIA

JAMES M. NORTHINGTON, M. D., *Editor*

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JAMES M. NORTHINGTON, M.D., Editor

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No. 1

Urticaria—With Observations on the Use of the New Anti-Histamine Drug, Benadryl*

L. C. TODD, M. D., Charlotte, North Carolina

THE chief characteristics of the allergic reaction are (a) increased capillary permeability, (b) smooth muscle spasm, (c) increased mucous gland activity and (d) eosinophilia. One, several, or all of these findings may be present. The most prominent and most easily demonstrable finding in the allergic manifestations is the hive. The typical hive is, of course, in the skin and mucosa but the increased capillary permeability and extravasation of plasma may take place in any of the deeper shock tissues and produce swelling as is typically seen in the so-called "angioneurotic" oedema. The symptoms depend upon the location of the swollen shock tissue and may occur as urticaria, eczema, rhinitis, conjunctivitis, asthma, colic, vomiting, headache etc.

Since urticaria is visible and easily followed in its course and the induced wheal one of the most important diagnostic signs of the allergic reaction and its etiology, this clinical condition is of particular interest to the allergist.

Until a better explanation may be given as to the causation of the wheal itself, that offered by Sir Thomas Lewis is as acceptable as any at present, although there are a number of unanswerable objections to it. This theory assumes that the antigen-antibody combination in the sensitized areas causes an irritation in or on the cells of the tissue with the liberation of a histamine-like substance which produces the effects resulting in an

allergic or anaphylactic reaction. This may be a chemical change in the shock tissues and the signs and symptoms are analogous to the effects of the injection of histamine.

Urbach¹ classifies urticaria under the allergic skin diseases but states, "many physicians and patients still labor under the misapprehension that all urticaria is to be regarded as allergic in origin. Because of this we have considered it expedient to include in the section on etiology not only a discussion of the various allergens commonly eliciting urticaria but also a brief review of the other mechanisms responsible for it."

Urticaria is a very common manifestation and angioneurotic oedema is not infrequent. Swinney² reported 22.3% of a group of 958 cases with a personal and family history negative for asthma and hayfever, had hives at some time in their lives. Of Urbach's³ 500 cases some 15% showed a family history of allergic diseases and states that it must be borne in mind that not every instance of asthma, migraine or urticaria is necessarily of allergic origin.

Stokes⁴ et al. found a family and hereditary urticariogenic background in 60% of their cases as against 25% for the controls. Swinney² found urticaria two and a half times as frequent in patients with asthma and hayfever. Sulzberger⁵ states that whealing is a fundamental form of skin response which may be produced by many different mechan-

*Presented before the Mecklenburg County Medical Society, Oct. 21, 1945.

isms—may be allergic or non-allergic or a combination of both. Trauma, even in normal skin, may produce an urticarial response. Patients with the urticarial tendency respond to many different forms of trauma such that direct skin testing may be impossible. Physical agents—cold, heat, light etc.—may produce whealing. It is still questionable whether the majority of these responses are based on specifically acquired sensitivity and cannot yet be considered allergic. A previous sensitization may not be required with certain substances which have the intrinsic property of producing whealing comparable to the effects of certain irritants, toxins and poisons which produce other form of tissue damage without preceding sensitization—these may be spoken of as primary urticariogenic agents and best examples are seen among the

(a) drugs—as histamine, morphine, codeine, atropine and pilocarpine,

(b) irritant plants—such as nettles,

(c) animals—aquatic animals particularly,

(d) insects—mosquitos, bees, wasps, gnats etc.

These may act directly upon the shock tissues and directly produce that type of vascular change which results in whealing. In this type of reaction, one need not require the necessity for primary urticariogenic agents producing an intermediate substance similar to histamine. With non-allergic whealing there is no proof of this intermediate substance being present.

The most common mechanism of the production of whealing is the allergic phenomenon.

The specific etiologic agents are insect bites, infestation with parasites, ingestion of certain foods, inhalation of certain allergens (pollens, dusts, fungus spores etc.) These are proteins and regularly produce specific urticarial skin sensitivity. Simple chemicals also—paraphenylenediamine, arsphenamine, quinine, salicylates (aspirin)—have all been known to produce immediate wheal forms of reaction in susceptible individuals—the specificity, the incubation period, the spontaneous urticarial flare-up, the accelerated and otherwise altered responses upon reexposure and the persistence of the specific altered state ("memory") have all been observed.

Urticaria is commonly seen unassociated with any other skin manifestation but it may be concomitant with the tuberculin type and the eczematous type of responses to the same agent—the wheal reaction usually being associated with the water soluble fractions, the eczematous usually with the constituents soluble in fat-solvents.

Many substances sensitize a large percentage of those exposed but this sensitization may remain subclinical and does not lead to allergic diseases. Schloss and associates^{6,7,8} observed many infants (even normal infants) by ingestion of various foods

developed specific precipitins in the blood and also specific urticarial responses. Hill⁹ noticed this also in the use of soybean in infants. Colmes, Guild and Rackemann¹⁰ demonstrated that millers and bakers exposed to cereal dusts had a much higher incidence of wheal reactions to skin tests with cereals (30% reacting), yet, of these individuals sensitive by skin test, only a small percentage manifested any clinical disease from exposure. A positive wheal skin test does not always mean a clinical sensitivity.

Coming to the question of clinical urticaria and its management, the first essential is to attempt to determine whether it is allergic or non-allergic. The treatment then divides itself into symptomatic, specific avoidances and hyposensitization, and non-specific treatment if other measures fail.

Vaughan¹¹ has described urticaria as the bete noir of the allergists and many are the non-specific measures that have been and still are being used for its management.

The chief difficulty in diagnosis is to get the non-specifically-reacting skin quieted down long enough to do skin tests; otherwise, it is necessary to conduct them by passive transfer. The patient needs symptomatic relief in the meantime and the use of adrenalin while acting directly upon the shock tissues also may inhibit the wheal response to the tests.

Coming back to Lewis' "H-substance" theory, attention has been directed to the use of histamine neutralizing agents such as the so-called histaminase of Best and McHenry.¹² Numerous other anti-histamine drugs which have the property of neutralizing histamine in vitro and protecting sensitized guinea pigs against anaphylactic shock to the shocking dose of the homologous antigen have been described.

One of the latest of these anti-histamine compounds has been introduced by Loew and his co-workers.¹³ It is a synthetic benhydryl alkamine ether. A recent clinical report on the use of this drug in controlling urticaria has been made by Curtis and Owens.¹⁴ This drug is produced by the department of clinical investigation of Parke, Davis and Company and called benadryl (or compound A-524) and is still under Federal license for investigation in various places as a clinical follow-up of anti-histamine action in carefully chosen cases of the various clinical manifestations of allergy. It is not now on the market but apparently will be released soon.

The chemical name for this compound is Beta-dimethylaminoethyl benzhydryl ether hydrochloride.

It is a white crystalline powder soluble in water and alcohol and is stable under ordinary atmospheric and temperature conditions. Its chief char-

acteristics of importance to the discussion are:

A. Alleviation of *histamine shock* in guinea pigs.

Benadryl is at least 15-30X more active than aminophyllin under these conditions.

B. Alleviation of *anaphylactic shock* in guinea pigs.

Of the sensitized pigs, 51% of the controls, 11% of those aminophyllin treated and 6.6% of those benadryl treated died in shock.

C. Anti-spasmodic action — *vitro* experiments with guinea pig smooth muscle.

Papaverine and benadryl, both of which usually completely annul the usual contractile response to histamine, acetylcholine and barium chloride were used in comparison. With papaverine given an index of 1 the ratio of activity of benadryl to papaverine is approximately 650, 50 and 1.3 times in relation to their antagonism to histamine, acetylcholine and barium chloride.

Results of toxicological studies in dogs and histopathologic studies in dogs have been gone into in an exhaustive way and it was shown to have a very low toxicity.

Because of the unusually good results reported from other investigators, especially as it relates to its anti-histamine and anti-spasmodic actions in urticaria, erythema multiforme and vasomotor rhinitis, we have tried it in a series of cases of various types of obstinate chronic urticaria and some of the acute whealing manifestations as well as acute urticaria. We have now used it in 52 cases—using it orally by capsule and elixir or by intramuscular and intravenous injection. Results are usually prompt and quite amazing.

Of the first 52 cases, in all of which the records are completed, 47 were completely relieved, 4 were partially relieved and 1 was relieved of whealing but not of pruritus.

We have found it useful for the symptomatic relief of both acute and chronic urticarias. It does not cure. Chronic urticaria, pruritus, oedema and dermatographia recur promptly after the drug is discontinued and usually promptly disappear again after resumption of the drug. The disappearance of the skin manifestation gives the allergic investigator time to work out the specific hypersensitive features of the case.

Side reactions such as drowsiness, dizziness and dry mouth were complained of in less than a fourth of the cases. Only one stopped the drug but begged to return to it after hives recurred.

Special instances in which we have found it useful are as follows:

1. In those patients exhibiting a generalized non-specific irritability of the skin which is subclinical but becomes manifest when attempting to do the routine skin tests.

2. In maintaining the urticarial patient in comfort for a few weeks until specific desensitization becomes effective.

3. In controlling the urticaria following liver injections and penicillin (orally or by injection).

4. In controlling the urticarial and angioneurotic oedema of serum sickness (anti-tetanic serum).

5. It relieves both allergic (antigen-antibody whealing) and non-allergic urticaria in the great majority of cases.

6. It has relieved promptly the whealing reactions to larva migrans (1 case), to Black Flag insecticide (1 case) and to D. D. T. (2 cases).

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The precordial pain of neurocirculatory asthenia is usually a dull or heavy ache, lasting for hours with occasionally sharp, stabbing sensations which may follow excitement or exertion and is usually worse when excitement, exertion and fatigue are combined.

Diagnosis and Management of Gallbladder Disease*

A. CHALMERS HOPE, M.D., Charlotte

DISEASES of the gallbladder constitute a problem of major importance in the practice of medicine, since gallbladder disease exists in 15 per cent of individuals. It has been estimated that 30 per cent of individuals over 45 years of age suffer from gallbladder disease. Miller has reported that among patients treated in the gastrointestinal clinic of the University of Pennsylvania Hospital 40 per cent of complaints were attributed to diseases of the biliary tract. With this high incidence of gallbladder disease, it behoves all of us to try to learn more about it.

DIAGNOSIS

Clinical manifestations of cholelithic disease, which may be either acute or chronic, are varied and often fail to follow the textbook picture. The fair, fat, flabby, fertile, flatulent female of 40, with a pain in the upper part of the abdomen may be typical of the patient with cholelithic disease; but this condition also occurs frequently in patients with other physical characteristics, and may produce symptoms suggesting peptic ulcer, coronary disease, diaphragmatic hernia, appendicitis, salpingitis, pleurisy, or renal colic.

The diagnosis of gallbladder disease is based on history of symptoms, physical examination, and laboratory data. The physical characteristics as mentioned may suggest the diagnosis of gallbladder disease, but the gallbladder patient is not necessarily fair, fat, or 40, but the disease is perhaps more common in people with these characteristics. It has been definitely proven that pregnancy is not a factor, but we are still seeking an explanation as to why the disease is more common in women than in men. The symptoms of a gallbladder patient vary greatly, but they usually include a selective dyspepsia. These patients cannot eat fried or fatty foods, raw apple, cucumber, or cabbage. The character of the pain varies, also the location of the pain. The pain may be intermittent or continuous. The pain may be in the region of the gallbladder, in the epigastric region, substernal, or between the shoulder blades. This radiation of pain is along the course of the seventh spinal nerve. The tenderness remains at the site of the disease process, although the pain may be referred. The diagnosis of gallbladder disease cannot be based entirely on laboratory data, but should be interpreted according to physical findings.

The diagnosis of acute cholecystitis is not difficult. In more than 90 per cent of cases there is a past history of cholelithic disease, often with

minor attacks of biliary colic. The attack is characterized by the onset of acute abdominal pain, increasing in severity and accompanied by nausea and vomiting. Elevation of the leucocyte count and of the temperature is not remarkable in early stages of an attack. This emphasizes the fact that attacks of acute cholecystitis are primarily obstructive, rather than inflammatory in nature. In most cases infection does not play an important part until after 48 hours, and in half of the cases cultures of the contents of the gallbladder in the first 48 hours are sterile. There usually is some definite tenderness in the right upper quadrant of the abdomen, and the gallbladder may be palpable. The development of a palpable gallbladder means that the pathological process has progressed to a point of impending perforation. The diagnosis of acute cholecystitis in women is easier than in men, since women do not have perforated ulcers and coronary occlusions as often as men, and consequently we think of acute cholecystitis first when a woman has an upper abdominal pain.

In many cases the degree of cholelithic disease is extremely difficult to evaluate, and the pathological process may be out of proportion to its clinical and laboratory manifestations. You may operate for chronic cholecystitis and cholelithiasis and find an acutely inflamed gallbladder. You may operate for acute cholecystitis and find a gangrenous gallbladder.

The criteria necessary for a diagnosis of cholelithic disease of sufficient severity to warrant operation are as follows:

1. A satisfactory history of one or more attacks of biliary colic or its equivalent, with or without fever, chills and jaundice.
2. Residual soreness in the region of the gallbladder following episodes of biliary colic.
3. Indigestion which is characterized by flatulence, bloating and discomfort.
4. A cholecystogram that gives evidence of a non-functioning gallbladder or the presence of stones.
5. Reasonable exclusion of conditions that simulate cholecystitis.

MANAGEMENT

From a therapeutic standpoint, diseases of the gallbladder can be divided into three main groups, as follows:

1. Chronic, non-calculous cholecystitis.
2. Chronic cholecystitis with stones.
3. Acute cholecystitis.

*Presented to the Mecklenburg County Medical Society, Charlotte, Dec. 4th, 1945.

Before going into the management of these three conditions, I wish to call to your attention the treatment of a patient with an attack of biliary colic. A colicky pain in the upper abdomen, radiating to the right scapular region, is typical of biliary colic. A colicky pain results from obstruction, a continuous pain denotes inflammation. Biliary colic is due to contraction of the gallbladder about a stone. The stone produces some irritation or obstruction to the gallbladder, and consequently sets up a spasm of the organ. Morphine should not be used since it is a contractor of smooth muscle. Very often 1/100 gr. of nitroglycerin under the tongue, along with seconal gr. 1½ or sodium amyłate gr. 3 will be sufficient to ease pain. If something else is required to ease pain, give dilaudid 1/32 gr. or demerol 100 mg.

CHRONIC NON-CALCULOUS CHOLECYSTITIS

Chronic non-calculus cholecystitis, as a rule, does not fulfill the criteria necessary for operation. In an occasional case the symptoms may be relieved by cholecystectomy, but, in general, these patients do not experience good results from operation. This group includes particularly those patients who have not had biliary colic and do not have positive cholecystographic evidence of disease. A diagnosis of chronic cholecystitis may be difficult without the presence of stones. Some of these patients thought to have chronically diseased gallbladders really suffer from biliary dyskinesia, and so are not benefited by operation, since their symptoms are due to functional disturbance which has no discoverable organic basis.

I would like to include the management of biliary dyskinesia, since it is a condition so frequently mistaken for organic gallbladder disease. Pain and digestive disturbances are produced by spasm of the sphincter of Oddi. These cases respond to a high-fat diet and antispasmodics. A case of chronic cholecystitis that interferes with the concentration of bile would probably do better on a low fat diet.

CHRONIC CHOLECYSTITIS WITH STONES

Frequently, gallstones are discovered in routine examinations without the patient ever having had biliary colic. These are spoken of as silent gallstones, and they may remain so for long periods of time. Unless the patient with gallstones has some definite contraindications, surgery should be advised, since he is very likely to have symptoms and perhaps complications later.

The incidence of cholelithic disease increases every year of life. Post-mortem statistics show that 25 to 30 per cent of all persons over 60 years of age have chronic cholecystitis with stones. Age is no contraindication to surgery, provided that their general physical condition is satisfactory. There is

always the possibility of complications, and an operation may be required under unfavorable circumstances.

The interpretation of cholecystography is important. So often gallstones are not demonstrable, but we know from the history of biliary colic that they must be present. Cholecystectomy is not advised in a case with vague symptoms and non-filling of the gallbladder without visualization of stones. On the other hand, with a history repeatedly typical of gallstone colic, even though stones cannot be demonstrated and the gallbladder empties and fills, if we can rule out all other lesions we can unhesitatingly advise removal of the gallbladder. Patients with doubtful symptoms and only non-filling of the gallbladder should be reexamined every two or three months and the dye administration repeated, until consistent filling or non-filling of the gallbladder is established. Intravenous dye should be used if you fail to get concentration of dye in a patient with vague symptoms. Since all gallstones are not visualized on x-ray examination, and since the concentration of dye may be normal even in the presence of stones, very often we have to rely on the history of the case to make a diagnosis. Ninety-eight per cent of stones are visualized on x-ray examination and 80 per cent of pathological gallbladders will show definite interference with concentration of dye. Since a normal gallbladder may at times fail to concentrate the dye, due to interference with absorption from the intestinal tract, or other causes outside the gallbladder, we should repeat x-ray examinations in patients with doubtful symptoms.

ACUTE CHOLECYSTITIS

Much of the danger of acute cholecystitis can be avoided by early operation—in the acute obstructive stage or early stage of acute inflammation. Early operation certainly saves the patient a long period of hospitalization, prolonged suffering, and danger of serious complications such as gangrene, perforation, acute hepatitis and so forth. Of course, if you operate in a case at the height of inflammation it will be a very hazardous procedure, due to the edema and induration in the gastrohepatic tissue about the common duct and hepatic vessels. This makes visualization and dissection of the cystic duct and artery more difficult and more hazardous. The incidence of acute cholecystitis can be reduced if chronically inflamed gallbladders with stones are diagnosed early and removed before such a serious complication as acute cholecystitis results.

A follow-up study of 150 patients with non-functioning gallbladders seen at the Mayo Clinic, who refused surgical treatment, revealed two years after the diagnosis had been made that 27 per cent of the patients had been operated on for

cholecystitis, jaundice, pancreatitis and perforated gallbladder. It is surprising how quickly after a stone blocks a cystic duct that the gallbladder can become acutely inflamed and gangrenous, and perforate. A person with gallstones carries this danger with him. The gallbladder is converted into a culture tube when the cystic duct is blocked off, and thus inflammation ensues. Unless we perform emergency operations in all cases of biliary colic we will always have some acute, gangrenous gallbladders to operate on. I believe most acutely inflamed gallbladders can be removed and should be. In an old person with empyema drainage is certainly preferable. In removing acute gallbladders where there is a great deal of induration in the gastrohepatic tissue it is preferable to remove the gallbladder from above downward. In other words, disconnect the gallbladder away from the liver bed first, in order to better visualize the cystic duct and artery.

The same criteria that indicate necessity for common-duct exploration in chronic cases also apply in acute cases. Morbidity and mortality have not been increased by choledocostomy in acute cases.

Summing up the pertinent points in regard to the diagnosis and management of gallbladder disease:

1. The diagnosis and management of diseases of the gallbladder constitute a problem of major importance in the practice of medicine.

2. Such disease exists in 15 per cent of individuals.

3. Symptoms are varied, often failing to follow textbook picture.

4. Pain may be referred, but tenderness remains at site of pathology.

5. The extent of disease is difficult to determine and is often out of proportion to clinical and laboratory manifestations.

6. Cholecystography is a valuable aid in diagnosis, to be interpreted in light of clinical findings.

7. Chronic non-calculus cholecystitis, as a rule, does not require surgery.

8. Chronic cholecystitis with stones requires surgical treatment regardless of symptoms.

9. Operation in acute cholecystitis in the first 48 hours is the treatment of choice.

—117 West Seventh Street

AN EPIDEMIC OF A SEVERE PNEUMONITIS (B. J. Olson & C. L. Larson, in U. S. Pub. Health Reports, Dec. 14th)

An outbreak of severe pneumonitis—19 known cases, 8 of which terminated fatally—occurred in the bayou region of southwestern Louisiana during the winter and spring of 1943-1944. Epidemiological, clinical and pathological studies were made jointly by the Louisiana State Board of Health and the U. S. P. H. Service. The results of these studies indicated the infectious nature and mode of spread, and defined the clinical and pathological characteristics of the disease in humans.

The initial studies of cases were made by taking mice, guinea pigs and monkeys to homes where the cases occurred and inoculating them with sputum or blood obtained directly from the patient. These animals were then taken to an isolated laboratory building at the United States Marine Hospital in New Orleans for observation. Further materials were studied subsequently in both the New Orleans laboratory and at the National Institute of Health at Bethesda, Maryland.

Sputum or throat washings were collected in sterile bottles. Portions of the specimens were inoculated directly into animals in most instances, while other portions were refrigerated. Some of the specimens were diluted with 30 per cent glycerine. Whole blood was injected immediately into animals, and blood for transport to the laboratory was citrated and refrigerated in transit.

Tissues from cases 17 and 18 were obtained at autopsy. No pathogenic bacteria were isolated.

The virus was isolated from throat washings, sputum and blood obtained from three patients during the course of illness and from autopsy material obtained from two fatal cases.

The virus, isolated from three cases, appears to be a new member of the psittacosis-lymphogranuloma venereum group and may be distinguished by its pathogenicity for guinea pigs and its infectivity for mice inoculated by subcutaneous or intramuscular routes.

RINGWORM OF THE TOES

(Herman Goodman, New York, in N. Y. State Jl. of Med., 45:1202, 1945)

Phase 1 consists of immediate reaction to insult with small and large blisters.

Suggested formulas are:

I. Sodium thiosulfate	50
Water to make	100
Dissolve, Filter. Apply to the feet after washing and drying.	

II. Potassium permanganate	4
Water to make	100
Dissolve a tablespoonful into foot bath.	

III. Iodine	0.5
Potassium iodide	1.0
Dissolve. Apply to affected parts night and morning.	

Phase 2 is the subsiding reaction. Suggested formulas are:

I. Tincture of iodine	6
Camphor	10
Alcohol to make	100
Dissolve the camphor in the alcohol and add the tincture. Apply to affected parts night and morning after washing and drying carefully.	

II. Salicylic acid	6
Alcohol to make	100
Dissolve. Apply to affected parts night and morning.	

III. Chlorothymol	0.6
Isopropyl alcohol to make	100
Dissolve. Apply to affected parts night and morning.	

Phase 3 is the infiltrating reaction of pseudo-callus formation. Suggested formulas are:

I. Salicylic acid	5
Benzoic acid	6
Soft paraffin	32
Cocoanut oil to make	100

Powder the acids and incorporate with the soft paraffin. Mix this with cocoanut oil to make 100 parts. Apply after washing and drying the affected parts. Cover with clean white socks for walking. At night, wash, remove the fringes of skin and softened callus. Following by application of:

II. Chrysarobin	5
Chloroform to make	100

DEPARTMENTS

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

OSTEITIS DEFORMANS (PADGET'S DISEASE); ALUMINUM ACETATE IN TREATMENT

THIS article¹ is abstracted because it presents the case for a remedial agent with which few of us have had experience, in the care of a disease condition in which we have been able to do little of benefit to the patient.

Osteitis deformans is a chronic disease of the skeleton characterized by extensive malacia, hypertrophy, and bowing of the long bones. Pain, the most prominent, and usually the earliest, subjective, symptom, is distressing and constant and difficult to control.

Report is made of case seen July 25th, 1944, with a history of gradually increasing disability due to pain, tenderness, and swelling of her right leg during the past eight months. At home she was able to get around a little with crutches. Several physicians had informed her that she had Paget's disease and nothing could be done for her.

The patient was an obese white woman, age 61, unable to bear weight on right leg or to walk without crutches; weight 200 lbs.; b. p. 148/80.

Alkaline serum phosphatase 15 Bodansky units, N.P.N. 93 mg. %, blood calcium, 5.9 mg. %, Kahn negative. X-ray examination of right leg revealed Paget's disease of tibia. A 2.5% solution of aluminum acetate in Elixir Lacto-Pepsin, a reducing diet, and an elastic bandage for the right leg were prescribed.

September 15th. Only slight pain, swelling, and tenderness in the right leg and she now attempted to bear some weight on the leg at times.

October 25th. Seemed improved, but x-ray showed progression of the process to the right femur and right patella.

November 27th. All symptoms had disappeared and have not returned since. At this time aluminum acetate was discontinued.

Last visit on March 20th, 1945. Weight 167 lbs., N. P. N. 54 mg. %, blood calcium 5 mg. %, serum phosphatase 5.5 Bodansky units, b. p. 168/90. X-ray exam. showed no change since October, 1944, and no involvement of the left leg.

This compound offers promise of relief from pain and disability in this chronic, resistant disease, and its further trial in other cases seems warranted.

1. L. E. Fazen, Racine, in *Wisconsin Med. Jl.*, Oct.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M.D., *Editor*, Charleston, S. C.

PLASTIC REPAIR FOR PROTRUDING EARS

WHETHER or not you have a child or a patient for whom you are debating with yourself the matter of deciding on having protruding ears pinned back, you will be interested to read Berson's¹ exposition of the subject.

It is best to correct protruding ears at an early age before the child becomes conscious of the defect. The shape of the ear is fully formed by the age of five, and correction of the deformity at that time will not inhibit its natural growth.

Repositioning the ear to its normal angle to the head is effected by constructing an antihelix, thus reducing the distance between the concha and the auricular angle between the concha and the head to the normal of 30°.

In order to produce the most cosmetic result, it is essential that not only the normal angle between the concha and the head be reduced, but that the convolutions of the concha and anti-helix be maintained in normal proportions.

Before undertaking the correction, the ear is placed against the side of the head to the desired angle, with 5% brilliant green dye a line is drawn at the back of the auricle at the point of contact, the auricle is then pressed against the head, thus tracing the dye from the ear to the side of the head. With the point of a needle dipped in the dye, a series of dots are punctured through the skin around the elliptical markings made in back of the auricle. This ellipse extends from the junction of the helix at the temporal region above to the lobule in the mastoid region below. These dots, which will not disappear during the preoperative cleansing, are better made with the patient in an upright position before the anesthetic is infiltrated, since infiltration produces distortion of the tissues.

Local anesthesia serves best. The infiltration tends to make the skin separate from the cartilage more readily. The entire anterior and posterior areas of the auricle are anesthetized at the same time as further infiltration in later stages of the operation would distort the shape of the ear.

A 22-gauge needle, two inches long, is inserted between the skin and the cartilage to the limit of the area to be infiltrated, and the solution—monocaine hydrochloride 1½%, with epinephrin 1:100,000—is delivered as the needle is being withdrawn. The anesthetic is introduced slowly, just enough pressure being exerted on the plunger, as too rapid a delivery inflicts unnecessary pain.

1. M. I. Berson, New York, in *Dig. Ophthalm. & Otolaryng.*, Nov.

An elliptical section of skin outlined is excised with a small scalpel. An elliptical portion of cartilage is then resected, the lines of incision being $\frac{1}{2}$ cm. within, and parallel to, the margins of the skin incision. By placing a finger against the anterior surface of the concha, the knife can be felt cutting through the cartilage. In this manner, perforation of the anterior skin layer of the ear is avoided. The size and shape of this section of cartilage will depend upon the size of the ear and the degree of protrusion. This segment of cartilage is stripped away by blunt dissection from the anterior skin, consequently the laterally directed elastic spring of the ear is broken. When the ear is placed in the desired position, the excess skin over the anterior surface will produce folds. These folds can be smoothed out by widely undermining the skin anterior to the remaining cartilage. The free margins of the cartilage are beveled, to reduce the thickness of the proposed antihelix. The antihelix is then formed by joining the beveled margins of the auricular cartilage by means of mattress sutures, forcing the beveled edges to protrude anteriorly. These sutures are introduced posteriorly through the margins of the cartilage up to the skin and are returned through the same cartilaginous margins and tied posteriorly. They do not penetrate the anterior skin. Upon tying these sutures, the beveled margins of the cartilage are united and produce a convex eversion forming an antihelix.

A strip of gauze impregnated with 5% sulfathiazole ointment is applied to the back of the ear. Moist gauze is compressed into the convolutions of the ear, and a firm dressing applied and held in place for seven to 10 days, at the end of which time the skin sutures are removed.

GENERAL PRACTICE

D. HERBERT SMITH, M.D., *Editor*, Pauline, S. C.

OBSERVATIONS ON THE USE OF BENADRYL AT THE MAYO CLINIC

1. T. W. McElin & B. T. Horton, in *Proc. Staff Meet. Mayo Clinic*, Nov. 14th, 2, 3, 4, 5 and 6, in same *Proceedings*. . .

BENADRYL appears to belong to a new pharmacologic group. It is a white crystalline powder, soluble in water and alcohol and stable under ordinary conditions of temperature and pressure. The dose by mouth has ranged from 50 to 500 mg. per day, by intramuscular injection 20 mg. per injection. From 10 to 120 mg. has been introduced intravenously in 10 min. by continuous drip in dilution of 60 mg. of benadryl per 100 c.c. saline solution. Intramuscular route has been used sparingly because excellent physical equipment for intravenous therapy was available and benadryl is moderately irritating to muscles.

In 21 of the 22 cases of hayfever (typical) 50% relief was obtained; in 19, 75% or more relief. The diagnosis of Meniere's disease was made in the case of a man who had had almost daily spells of violent vertigo since May. Complete relief was obtained within 24 hours after administration of 150 mg. of benadryl per day, maintained for five days while taking the drug; 24 hours after the drug was omitted mild dizziness occurred. Benadryl was resumed and the patient has been completely free of symptoms since that time. Meniere's disease plus urticaria in the case of a woman who on many occasions in the past 18 months has caused simultaneous manifestations of the two conditions. The edema of both skin and labyrinth was promptly and completely alleviated by 150 mg. per day. A patient with Meniere's disease, urticaria, hayfever and allergic headache obtained complete relief by taking 300 mg. per day. The dosage is now being reduced to determine the minimal effective level.

Acute urticaria and angioneurotic edema occurred to a woman, 23, who had had 15,000 units penicillin intramuscularly q. 3 h. for 17 days following operation on the right tibia for osteomyelitis. Four minutes after the intravenous injection of benadryl was begun, the pruritus had been reduced; after 28 minutes there was no objective evidence of urticaria on the hands or knees and no pruritus; eight minutes later the patient was completely comfortable. A total of 150 mg. of benadryl by mouth was given in the remainder of that day. A boy, 7, who had received penicillin in a like manner, had severe urticarial and angioneurotic lesions over the entire cutaneous surface with marked pruritus and excoriation, was relieved in 5 min. by the drug. A young man, 18, had a similar type of skin reaction from the use of penicillin. The intravenous injection of benadryl gave subjective relief within five minutes. In a 4th case of drug allergy (barbiturates) the burning and smarting of the extensive lesions disappeared in two minutes, the lesions in eight hours.

In histaminic cephalgia benadryl seems able only to reduce the severity (this not consistently) of the attacks, not the frequency. In four cases of tension headache benadryl has yielded excellent results.

Fifty per cent relief superior to any yet obtained was obtained from small quantities of benadryl in a case of a physical allergy with irritation of the eyelids and photophobia due to changes of temperature.

In vasomotor rhinitis, the intravenous route has been used with rapid clearing of the nasal congestion. In a case of acute bronchial asthma, benadryl by vein was tried on three occasions; at no time did it offer any significant relief; coughing

was made more difficult and the expectorated material more tenacious.

A Syrian who had migraine and epileptic equivalent was given benadryl 60 mg.; within five minutes the attack was terminated. The attacks lasted five hours. Histamine, epinephrine and prostigmine and other therapeutic agents had been tried during acute episodes with no results.

These studies indicate that benadryl appears to be of considerable promise in the treatment of some edema problems. The parenteral usage of the preparation seems to be safe and points the way for rapid relief of the acute aspects of some of the common allergic disorders.

Urticaria response to benadryl has been so consistent and so dramatic that recitation of case histories would be repetitious.² Only one patient has been seen in whom the urticaria cycle has been checked after discontinuance of treatment with benadryl. In this study some patients remained asymptomatic, although the dosage was steadily decreased. Of the 50 patients who received benadryl for urticaria, 34 were completely relieved, 12 were definitely improved, four experienced no benefit. Eighteen of the 50 complained of varying degrees of symptoms of toxemia from the drug. In the majority of cases relief is obtained only while the drug is being used.

A report is made of the use of benadryl in 83 patients afflicted with hayfever, bronchial asthma or the two in association.³ The dosage was 50 to 100 mg. by mouth, t.i.d. Unless the patient claimed at least 50% relief following a reasonable trial of treatment, we called the result, "no benefit."

Fifty-seven patients (69%) reported benefit; 26 (31%) no benefit.

Of the group afflicted with hayfever 39 (75%) of a total of 52 reported benefit; 13 no help. Ten obtained almost complete relief; 10, 75%; 10, 50% relief. Of the 13 not relieved, eight stopped taking the drug because of unpleasant side effects.

With hayfever in association with asthma 14 reported benefit, five no help.

Side effects: drowsiness was reported by 25; uneasiness and trembling has been reported.

Twelve patients who had perennial vasomotor rhinitis were treated.⁴ Two obtained 90% relief, two no relief. Four patients who had hyperplastic ethmoiditis all were relieved, with retraction and disappearance of polypoid tissue and diminution or disappearance of purulent discharge. Symptoms returned within 12 hours of cessation of dosage. The effect of benadryl in perennial vasomotor rhinitis appears to be superior to that of niacin.

Myalgia of the head—tender regions in muscles as a result of physical or emotional stimuli is re-

ferred to by the patient as a "sinus headache." Five such patients were given benadryl for a week and niacin the next week in an attempt to determine which drug gave the better relief. From use of benadryl the patients reported 40 to 50% relief of headache and definite relief of muscular tenderness. All five patients reported the relief obtainable from niacin greater than that from benadryl.⁵

The results of the treatment of 18 children suffering from hayfever, asthma, vasomotor rhinitis, urticaria and serum reactions with benadryl suggest that this is a useful drug in treating children having these diseases if an adequate dose is employed. It is suggested that 2 mg. per pound of body weight daily is an effective dose in most instances.⁶

5. G. B. Logan.

6. G. B. Logan.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

THE PREVENTION OF STONE FORMATION DURING CONSTANT URINARY DRAINAGE

CONSTANT urinary drainage is frequently required for long periods of time in the care of war wounds of the urinary tract and spinal cord. Whether this is accomplished by means of an lying urethral catheter or a suprapubic tube, a principal problem is the partial or complete blockage of the catheter or rubber tubing due to crystallization of the urine. The obstructing sediment is caused by urinary infection with urea-splitting organisms and alkalinization of the urine. Unless the crystals are mechanically or chemically removed, complete or partial obstruction with leakage of urine around the catheter occurs. Not infrequently, bladder calculi develop.

Suby¹ has found a means of meeting this situation which arises not infrequently in civilian practice.

Frequent changing of catheter and tubing and irrigating the drainage system with the ordinary solutions (saline, boric, and potassium permanganate etc.) have not proved satisfactory in managing this problem. Frequent changing of catheter is troublesome and painful and sometimes is dangerous or contraindicated, as in injuries of the urethra. Moreover, the ordinary irrigating solutions are not very effective in preventing crystallization.

The use of solution G, an irrigating fluid developed to dissolve urinary calculi, has proved so satisfactory in preventing crystallization of the urine during constant urinary drainage that at-

1. Major Howard J. Suby, M.C., A.U.S., in *J.Lancet*, Dec.

2. P. A. O'Leary & E. M. Farber.

3. G. A. Koelsche et al.

4. H. L. Williams.

tention is called to its use for this purpose. This solution is a solvent for calcium phosphate and calcium carbonate and yet is almost non-irritating to the urinary tract.

Formula for Solution G

Citric Acid (monohydrate)	32.25 G.
Magnesium Oxide (anhydrite).....	3.84
Sodium Carbonate (anhydrous).....	4.37
Water, q.s. ad.....	1000 c.c.

The most practical method of using solution G will naturally depend upon the case and the type of drainage employed. In patients with so-called cord bladders on tidal drainage, solution G should be used alternately with sterile water, boric acid solution, or saline. The percentage of total time on solution G should be determined by the amount of crystallization and urinary infection. In patients with relatively clear urine, one-eighth of the total time on solution G may be sufficient to keep the drainage system free of encrustations. In severely infected cases it may be necessary that solution G be used as the irrigating fluid for 50 per cent or more of the total time.

In dealing with a patient on constant drainage with either a urethral, suprapubic, or perineal tube, the problem is different. The efficacy of this therapy is dependent on getting and keeping the solution in contact with the encrustations. Consequently it is necessary to instill slowly 2 to 4 ounces of the solution into the bladder and keep it there for two minutes, then allow it to drain out. This procedure should be repeated at least three times, twice daily. In severe cases it may have to be done as often as every four hours. This closed sterile system prevents the possibility of contamination at the time of irrigation. If solution G is used as the only irrigating fluid, this type of system can usually be kept clean indefinitely.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

PITFALLS IN THE DIAGNOSIS OF ATYPICAL PNEUMONIA

At a recent meeting of the Fourth District and Southside Virginia Medical Society, an excellent paper on Atypical Pneumonia was presented, which created a great deal of discussion. It so aroused the writer's interest that he looked for some further information on this condition. In the July-August issue of *General Practice Clinics*, Walter L. Nalls gives a worthwhile discussion of the subject. On the next page of the same issue, Karpel et al. present an analysis of 500 cases of primary atypical pneumonia. It would appear that an analysis of these two articles might be of interest to the read-

ers of this column, particularly at this season of the year. General analysis of 500 cases follows:

Karpel et al. present a detailed analysis of 500 cases of primary atypical pneumonia which should be of invaluable aid to the general practitioner in the diagnosis and handling of these cases. This analysis shows that the onset is usually insidious, the patient seeking no medical aid for days or weeks because he thinks he is suffering from a common cold. The initial symptoms are usually malaise, chilliness, headache, rhinitis, sore throat, cough and substernal pain or heaviness, the last probably caused by muscular action entailed by excessive cough. The cough in the average case is productive of a tenacious mucoid sputum, with blood-streaking quite common. The sputum after a few days may change to the mucopurulent type. Temperature ranges from 102 to 104, with afternoon and night rise and a fall to normal or nearly normal by morning.

The most constant physical finding was rales, usually the wet type. Bubbling rales were a frequent finding in cases with severe or extensive involvement. Abdominal pain was the chief complaint in 4 per cent of the cases; some showed the classical picture of acute appendicitis. A normal appendix was found on operation. No abnormal physical findings were present in 10 per cent of the series. The almost complete absence of cyanosis, dyspnea and abdominal distention points away from a diagnosis of lobar pneumonia. The characteristic röntgen-ray finding is a soft shadow radiating from the bronchial tree; involvement in the typical case is limited to a portion of a lobe or lobes, although in some cases there is involvement of an entire lobe.

In 56.6 per cent of the cases, the leucocyte count was found within normal limits. Laboratory examination of sputum was likewise of no aid. Less than 3 per cent of the cases developed complications. Differentiating between atypical and lobar pneumonia is not difficult. In the former, onset is insidious and without chill; fever is not marked nor sustained at a common level; dyspnea and cyanosis are seldom present; sputum is not rusty; and there is lack of response to sulfonamides.

No specific treatment is known. Bed rest is essential; fluid intake must be adequate and this requires considerable nursing care. The common antipyretics and non-narcotic analgesics for headache, slight pleural pains and other aches and pains, should be used freely. Opiates, especially codeine, should be used for severe pain and incessant cough; the oxygen tank is used at the first sign of dyspnea or cyanosis. Small transfusions of blood have proved beneficial, especially if the donor has recovered from the disease. The authors

found the sulfonamides ineffective in this infection.

Two treatments, not used by the writers, have been recommended by others; one is the administration of oxygen under pressure and the other is postural drainage. There was only one fatal case in the series.

Nalls urges that the disease not be taken too lightly in view of the serious illness sometimes encountered and the prolonged concalescence, although the mortality is low. Differential diagnosis is often difficult and not distinguished from pneumococcal pneumonia. A case is presented where there was absence of abrupt onset, sharp pleuritis pain, characteristic sputum, leucocytosis and specific organisms in the sputum, as seen in the latter disease at times. It is impossible to differentiate the two diseases on the basis of x-ray and signs and symptoms; it may be necessary to determine whether there be any response to therapy, specific or otherwise. The author does not approve of the administration of sulfonamides to pneumonia cases regardless of type. Although this may be justifiable in cases of suspected secondary bacterial invasion, these drugs are not always harmless and their use may incur unnecessary risk.

Atypical pneumonia may be confused in diagnosis with tuberculosis. Atypical pneumonia usually occurs in the lower lobes, whereas tuberculosis usually occurs in the upper lobes. In the röntgenograms of atypical pneumonia, the irregular mottled densities, often accompanied by atelectasis, may simulate the appearance of tuberculosis, but the failure to recover the tubercle bacilli in the sputum and the rapid resolution of the lesion will indicate atypical pneumonia.

This disease must further be differentiated from bronchiectasis during the acute stage. Bronchiectasis may follow atypical pneumonia because of infection in the bronchial wall, bronchial obstruction, atelectasis, and location of the disease.

It is pointed out that it would be unfortunate to institute pneumothorax or to undertake surgical treatment in these cases of atypical pneumonia which simulate tuberculosis or bronchiectasis. Should x-ray findings indicate the presence of a sharply localized area of atelectasis that does not disappear in a reasonable time, pulmonary tumor may be suspected. The reverse is sometimes true, and a diagnosis is made of primary atypical pneumonia until a bronoscopic examination reveals the presence of a bronchogenic carcinoma.

THE VALUE OF AUTOPSY EXAMINATIONS

(S. E. Simpson, Watertown, N. Y., in *Northern N. Y. Med. Jl.*, 22:1, 1945)

In 10 years there have occurred 117 deaths at the Sanatorium with which the author is associated. Permission for autopsy was obtained in 79 (67.5%) of these, and autopsy revealed that the diagnosis was correct in 64 cases (81% of those autopsied).

In seven cases the clinical diagnosis was very similar to the pathological. One was diagnosed as hypernephroma of the left kidney with pulmonary metastases, but the pathologist decided that the tumor was a sarcoma.

In another group of eight cases the clinical diagnosis was entirely erroneous, yet justified by the x-ray and laboratory findings. One case diagnosed as pneumonia with acute bronchiectasis and another as metastatic carcinoma, were found to be primary pulmonary actinomycosis. Another case diagnosed by x-ray as moderately advanced silicosis was found to be disseminated tuberculosis. When at later dates two cases with similar histories and identical films were seen, the correct diagnosis was made.

These wrongly diagnosed cases are presented to show the fallacy of making a diagnosis on inadequate findings. Even though the x-ray picture show shadows which appear typical of any one disease, it is not safe to make a diagnosis without additional data. Mistakes cannot be avoided yet should be kept to the minimum and corrected by autopsy examination. Thus diagnostic ability may be increased and the experience gained used to the benefit of the next patient.

SURGERY

A. CHALMERS HOPE, M.D., *Editor*, Charlotte, N. C.

STORAGE OF SKIN FOR AUTOGENOUS GRAFTS

MATTHEWS¹ makes an interesting report on this subject.

Skin kept under refrigeration for as long as eight weeks may be used successfully for autogenous grafts. The storage of skin grafts saves the patient with a large denuded area from a succession of operations. Use of fibrin instead of sutures simplifies fixation without anesthesia.

Satisfactory results have been obtained in 50 cases of grafting with skin which had been stored as long as eight weeks. Rate of growth of the epithelial margins was the same as that of fresh skin. Identical, too, were the vascularization, softening, color match, texture and pliability. An increased capacity of the stored graft to withstand infection may be attributed to the effects of refrigeration.

In preparation for storage, the graft, which may vary in thickness from a Thiersch graft 0.015 inches thick to a split-skin dermatome graft of 0.035 inches thick, is folded with raw surfaces opposed, wrapped in a piece of tulle-gras and then rewrapped with a piece of gauze tightly wrung out of a normal saline solution. The twice-wrapped graft is then put in a sterile 20-c.c. glass bottle with a piece of rubber tubing at the bottom, and an air-tight cap is screwed on. The ring of rubber holds the graft away from the fluid which collects in the bottom of the bottle and prevents any portion of the graft from becoming submerged and edematous.

The bottle is placed in a refrigerator in which a t. from 3 to 6° C. is maintained. Grafts stored in this manner have been preserved for eight months without evidence of histologic change.

1. D. N. Matthews, in *Lancet*, 248: 775-778, 1945.

ODOROUS WOUNDS AND FISTULAS

FETOR from intestinal and urinary fistulas or from incontinence, suppurating wounds, necrotic tumors or gangrene, Babcock tells us, may be obviated by two simple agents.

If the wound, fistula or opening from which there is odorous emanation is covered with several layers of gauze or cotton saturated with a 1:300 to 1:500 aqueous solution of potassium permanganate, which has little odor, escaping gas, solid or liquid material may be entirely deodorized. All that is required is that the offensive area and discharge be completely covered, that the dressings remain wet and that the permanganate solution be reapplied as it loses its deodorizing qualities by oxidation. It rarely irritates the skin or delays healing. It stains linen and the skin a dirty brown which is not removed by ordinary washing, but which may be decolorized by a solution of oxalic acid with possible detriment to the fabric.

Another potent deodorant which does not stain fabrics, is bromine 1:500 to 1:2000. The 1:500 solution which has a pungent odor and may irritate sensitive surfaces and the nasal mucous membranes is to be used only in extreme cases. Compresses wet with such a strong solution may be used to cover a gangrenous limb.

Solutions of 1:1,000 to 1:2,000 may be applied on gauze or other absorbent dressings for days over the perineum or other odorous parts, with little or no irritation of the skin. It is necessary to moisten the dressings from time to time, whenever the faint odor of bromine is lost, and when properly used the offensive odor or that of the chemical is hardly noticeable in the room. Offensive fistulas covered with layers of gauze or pads wet with weak bromine solution give little objectionable odor, the surrounding skin is not irritated and fabrics are not stained.

As bromine solution is decomposed by light and becomes colorless and inert, it should be kept corked in brown glass bottles.

1. W. W. Babcock, Philadelphia, in *Jl. A. M. A.*, Dec. 15th.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

DENTAL CARIES EXPERIENCE IN RELOCATED CHILDREN EXPOSED TO WATER CONTAINING FLUORINE

MORE evidence that fluorine ingestion reduces and retards dental caries is adduced by Klein.¹

Early in 1942 two groups, because of their Japanese ancestry, had been transferred with their parents from homes in Los Angeles and environs to an assembly center near Los Angeles. In the

1. H. Klein, Senior Dental Officer, USPH, in *Pub. Health Rep.*, Dec. 7th.

autumn of 1942 they were again transferred, 120 to a center in California and 196 to Arizona.

The children relocated to the California center consumed fluorine-free water originating from melted snows. The children relocated to the Arizona center consumed water originating from two deep wells; this water contained fluorine 3 p.p.m.

In the fluoride area, boys who were eight years old in 1943 developed 22 new DMF (decayed, missing or filled)—teeth per 100 caries-free permanent teeth present in the mouth at the first examination in 1943; boys of the same age in the control area, 44 new DMF teeth per 100 caries-free permanent teeth; girls eight years old in 1943, 15 for the fluoride group, and 36 for the control group.

The absolute differences in incidence of new caries between the fluoride and control groups tend to diminish with advancing age for both the girls and the boys.

Among teeth present in the mouth at the beginning of exposure to fluorine, those most recently erupted were those most protected against caries.

This is not an endorsement for the addition of 3 p.p.m. of fluorine to community water supplies. However, the data provide information showing that addition of small amounts of fluorine to community water supplies deficient in this element effects a reduction in caries incidence in the erupted permanent teeth of residents of school age; and that such caries inhibition is most noticeable in the erupted teeth of the younger children.

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

ONE MAY WONDER

—why a layman, even though a distinguished soldier, should head the United States Veterans Administration, the chief and the most difficult function of which is medical.

—why we should expect success to attend Federal efforts to placate many groups of threatening citizens, in view of the failure of the Hardware Man of Great Britain, of the top hat and the umbrella, to appease the bellicose Teuton and the chesty Italian.

—if Grover Cleveland, were he at present in the White House, would not again deal with threateners, international and domestic, as promptly and as vigorously as he dealt with the British Government and with rioters in Chicago. Yet I have heard that the doughty Democrat, now almost forgot, was rather well alcoholized when he penned his so-called Venezuelan message to the head of the British Empire and to the world. But I have deal with many an intoxicated man, who was lacking neither

in intelligence nor in courage. The pharmacological and the psychological effect of alcohol may be merely liberative, rather than creative.

—why those veterans of the world wars, one and two, should not be enabled to obtain medical and hospital care near their homes and of their own selection. Most of the veterans who have been my patients have been anxious to be in an environment free from military trappings and from other reminders of autocratic authority. Sick folks, warriors as well as civilians, usually prefer to be cared for by nurses and by doctors of their own vicinage.

—many things about the State Hospital situation in North Carolina: why it is possible and apparently not difficult to create by recent legislative enactment two new offices as a part of the State Hospital system, and to place in each of those offices in Raleigh a high-priced official. One of the officers is known as the General Business Manager of the State Hospitals. One may infer from his frequent releases to the press that he may think of himself as embodying the entire management of the State Hospitals in North Carolina. He is a layman, and he would probably be unable to differentiate a spirochete from a staphylococcus if he were to meet them walking arm in arm on Fayetteville Street, after the manner of the Walrus and the Carpenter. The General Business Manager, habitated in Raleigh, in constant nearness to the Gubernatorial Throne, must find it much more pleasant and satisfactory to deal with the material needs of the patients than if he were in daily residence with them, as the local business manager is in each institution.

—The new Chief Physician of the State Hospital system is likewise officially installed in Raleigh, in an office probably near that of the General Business Manager, who was there first. This physician will exercise episcopacy over the functionings of the State Hospitals and over most of the other mental hygiene activities of the state. The new officer is known as General Superintendent of State Hospitals. His annual salary is probably equal to the combined salaries of all the superintendents of all the State Hospitals in North Carolina when I was a member of the medical staff of the State Hospital at Morganton. And that has been scarce a century ago. One may wonder, indeed, if the salaries of the two new officials in Raleigh, always out of ear-shot of their patients, with secretaries and clerks and actuaries and statisticians, together with travelling expenses, may not amount to as much as all the salaries and wage expenditures of the State Hospital at Morganton two or three or more decades ago. But one must not wonder uncomfortably.

Many doubtless wonder still why the state spent so much in transforming the State Hospital Building at Morganton into a pseudo-fireproof building, right in the midst of the economic depression, when money was as scarce as Christian charity. The unregenerate know, of course, that the public money was spent, not so much to prevent fires, as to help to keep in office the perpetual candidate for the Presidency of the United States. The expenditure of none of the Federal swag on the institution at Morganton provided room for a single additional patient, though many mentally sick patients were in the jails in North Carolina when those expenditures were being made.

—why it is apparently easy to install a General Superintendent of all the State Hospitals in an office in Raleigh, but impossible to find a superintendent for the State Hospital at Raleigh and another for the State Hospital at Morganton. There are three State Hospitals in North Carolina. Only the State Hospital at Goldsboro, for Negroes, is provided with a superintendent. And not one of the State Hospitals has one-fourth as many doctors as it should have. Why?

—why Highland Hospital at Asheville continues to be advertised as a Psychiatric Unit of Duke University after a member of the medical faculty of Duke University has stated in a medical journal that Highland Hospital and Duke University are not affiliated. Those possessing a profound understanding of the deep-seated virtues of the late James Buchanan Duke doubtless realize that it would be no more difficult for his altruistic spirit to create a Psychiatric Unit than a School of Theology.

—if the American members of the trial courts of the enemy leaders in Germany and in Japan have each been given a copy of "The Tragic Era." Claude G. Bowers still lives. Why is he not a member of one of the trial courts? He knows more than any other living man of the high-minded behaviour of the United States Government in the South during the decade that came immediately after Appomattox. Hate and the desire to apply the punitive ritual probably constitute ingredients of most reformers and of most military conquerors.

—if the editor of the comment column of the Journal of the American Medical Association has never heard of the interest of the late Dr. Benjamin Rush in psychiatry and of his authorship of the first American textbook on mental diseases.

—if John Amery and William Joyce, recently hanged in London by the British Government, were mentally normal.

—if one finds much comfort in wondering.

OPHTHALMOLOGY

CLARENCE B. FOSTER, M.D., *Editor*, Charlotte, N. C.

PARESIS OF ACCOMMODATION

Loss of reading vision in patients of 45 and over is a well known phenomenon in everyday practice. Not so well recognized, perhaps, is troublesome near vision in the younger age groups.

These people experience difficulty, of recent origin, in studying, sewing and fine mechanics. When no related function such as convergence is involved other complaints are not mentioned. They speak simply of blurred near vision.

Of course an uncorrected hypermetrope will have reduced distant vision; but the emmetrope and myope will hardly have that difficulty. That these cases occur infrequently is not to be denied. Yet they are seen often enough to deserve attention.

The factors in accommodation are two in number—lenticular and neuromuscular. Sclerosis of the lens, as noted in presbyopia, affects the first factor.

In this discussion we are concerned with the second—the third nerve-ciliary muscle factor. Thus phenomena of lenticular change associated with disturbances of tissue fluids can be ruled out.

It is simpler, too, in this brief article, to leave out of consideration accommodative paresis associated with pupillary dilation as is found in acute poisoning or brain syphilis.

The cases we would like to think of here are those from the teens to 35, with active pupils and no complaints other than inability to do close work.

With the distance correction in place, and an 18-inch ruler in hand, newspaper print may be brought toward the eyes. It is well to do the test monocularly as well as binocularly in order to eliminate a convergence influence. If there is inability to read or to maintain focus at the average reading distance of 14 inches, an accommodation insufficiency may be assumed. When lens, media and retina are noted as free from pathology, through a dilated pupil, the diagnosis may be considered proven.

Dr. H. C. Neblett, in the February, 1945, issue of this journal, has an excellent article on this condition brought about by long-continued treatment with the belladonna group of drugs.

Accommodative weakness is evident during the convalescent period of any illness of degree from measles to pneumonia. It is frequently noted after diphtheria and influenza. Metabolic disturbances are offenders, as illustrated in thyroid disease; so are neurasthenia, vascular tensive changes and anemia. The prodromal stage of glaucoma may produce varying degrees of accommodative weak-

ness. Some men have noted changes in hayfever and other allergic conditions. Instances of accommodative paresis following the use of sulfonamides in treating upper respiratory infections have been noted. Whether this effect is due to the results of the infection or to the sulfa-drug toxicity has not as yet been determined.

Of particular interest to obstetricians is the effect of pregnancy upon accommodation. This varies with the individual, and from time to time; but it is quite usual to note some degree of weakness in the pregnant state.

And gynecologists have noted the strange but definite diminution in the accommodative powers of those under treatment by estrogenic substances. More than one synthetic product may be at fault. Diethylstilbestrol in particular has been singled out for its effects.

As Dr. Neblett has pointed out, lenses in themselves are not a treatment. A reading-glass may be prescribed for emergency use while taking examinations or completing a business transaction. The cause remains to be sought out.

This problem is one for the family physician and consultant to work out together. A complete examination, including blood chemistry and metabolism tests, is in order. Every effort should then be made to remove the cause found, and supervision should be continued until maximum recovery has been attained.

Fortunately, most cases of accommodative weakness, thus handled, ultimately recover their full power of close vision.

For those who fall short of full recovery, after a prolonged period of treatment and rest, when the family physician has satisfied himself that he has done all in his power for the patient, a pair of reading lenses may be necessary for an indefinite period.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

STRIKE WHILE THE IRON IS HOT

THE TITLE of this paper expresses a command as old as the hills, but one statement that never has been improved upon. Its utterance, of course, was in the "Blacksmith's Shop" and the smith was instructing the younger apprentice, giving him the most valuable piece of instruction that he could ever listen to, no matter how long he remained a blacksmith. Let those of us who are interested in hospitals take note that the iron is hot as to voluntary hospitals caring for the returned veterans.

Most of us are familiar with the fact that General Bradley has recently been appointed Director General for the Veterans' Administration, and I

believe that the veterans are fortunate in his appointment. General Halsey, his assistant, I am told is very much interested in providing adequate medical care by private family doctors to the sick veteran.

I have been informed that at least one State has succeeded in signing a contract with the Veterans' Administration by which any reputable physician, a member in good standing of that State Medical Society, will be privileged to treat the veteran if the veteran so chooses, rather than enter a veterans' hospital and be treated by strange doctors provided by any form of civil or military service.

If these statements are correct, and I believe they are, the hospitals now have a glorious opportunity to call on General Bradley or his assistants, and make plans to take care of such veterans, in need of hospitalization, in their own home neighborhood. The main organizations that should strike now are the Hospital Associations of the State. This will require the executive officers of these associations having an immediate meeting and appointing a delegation to call upon General Bradley with a concrete, practical, easily applicable plan. They should not go there expecting to tap the treasury of the United States with a high-powered pump to draw money by the thousands out of the appropriation given General Bradley to administer to the veterans' cause. They should go there with a unified plan, and one which is flexible but yet standardized to the point where the relationship between state hospitals and the Administration can be agreeably understood and adjusted with the least possible red tape or friction.

The officials should accept the responsibility for all of the hospitals belonging to their Association and should make it clear to General Bradley's staff that should any hospitals attempt to take any advantage of a mutual agreement between the hospitals of North Carolina and the Veterans' Administration, the officials of the Hospital Association will assume responsibility for seeing that the matter is corrected promptly.

This may seem to be taking the bull by the horns, but it is perfectly obvious that unless the Hospital Association accept this responsibility, the Government does not care to enter into a contract to provide hospitalization to the veterans, unless they are in contact at all times with a supervising, directing and coördinating body to whom the Administration's officials could turn when adjustments are necessary.

I suggest that the Hospital Associations of North Carolina call a special meeting of their Executive Board within the next few days, and appoint a committee of five who are familiar with the hospital situation in North Carolina to call upon General Bradley, or whoever he designates for such a

conference, with a concrete plan as to the cost of care to the veterans in the hospitals of our State. It should not be one which would fix different charges for the various hospitals' services according to number of beds in a hospital. That would entail too much paper work on the part of the Veterans' Administration. It should state that each hospital is equipped with full pathological laboratory and x-ray service and that each veteran will receive certain examinations as a routine by service hospitals authorized or recommended by this committee; that complete records will be kept with reports for the Administration upon their request, and that all detail work, as far as is practicable, will be done for the Veterans' Administration so far as the hospital service to the veteran is concerned. At the time that this committee calls upon the Veterans' Administration, it should be open-minded and ready and willing to accept any reasonable suggestion or demand on the part of the Administration.

The average per capita cost should be the basis upon which a fixed fee should be established for this service. Those hospitals that are fortunate enough to participate in the Duke endowment funds will have no trouble establishing their per capita cost. This will probably constitute a large enough number of beds to use as a basis upon which to estimate a fair fee, remembering, of course, that there will have to be some difference between the ward patient and the private-room patient.

It would be impossible for the author of this article to try to set down in detail all of the conditions that are to be met; but he feels perfectly safe in urging that those appointed should be given authority to go *immediately into action* and represent in a legal way the hospitals of North Carolina. The main point, however, is that we must *strike while the iron is hot* and in the writer's opinion, it is now white hot. Let us not procrastinate!

INTERNAL MEDICINE

GEORGE R. WILKINSON, M.D., *Editor*, Greenville, S. C.

PAIN IN THE CHEST: ITS SIGNIFICANCE

A DISCUSSION¹ of this common, often serious, symptom, will suggest the proper diagnosis and management of some of our cases which give us much concern.

The order of frequency of causes is as follows:

- a. Strain or trauma of the chestwall
- b. Indigestion with cardiospasm
- c. Lung and pleural involvement
- a. Gallbladder disease
- e. Coronary disease.

¹. C. C. Aven, Atlanta, in *Jl. Med. Assn., Ga.*, Nov.

Pleurodynia, or intercostal fibrosis, is manifested by unilateral pain of diffuse distribution, which is intensified by deep breathing, coughing, or yawning. It is more common on the left side but may migrate from side to side. There is diffuse tenderness.

Pain in bronchitis is usually substernal and occurs with coughing. Spasm of the esophagus or cardiospasm may lead to substernal pain, regurgitation of food or vomiting. The intermittent character, relation to meals and relief from nitrites may confuse the unsuspecting, and a diagnosis of angina or coronary disease may be made. Fluoroscopic and x-ray examinations are usually helpful.

Intercostal neuralgia and herpes zoster may create confusion, but the appearance of herpes clarifies the diagnosis.

Pain in the chest may be due to allergic reactions, especially to nicotine.

The frequency of pain in the breast of women is impressive, and the symptom is unexplained in many instances. Phobia of cancer cannot explain these cases.

Interstitial mediastinal emphysema is painful; it is rare but dramatic, and simulates coronary disease.

Recurrent pain over the lower portion of the chest in patients who have previously had pleurisy may be severe or just an ache, or it may extend down in the abdomen and cause confusion with acute abdominal conditions. There is often a furrow following the affected nerves. This pain is affected by weather, menstruation, or the presence of nervous or emotional distress.

Certain chest pains described with areas of hyperesthesia and a light feeling in the region complained about can be reproduced by inflating the stomach or colon with air.

Various functions of the body have a definite relationship to pain, therefore every patient with pain in the chest should not be subjected to all the various laboratory, x-ray and other expensive examinations without good reason disclosed by a careful, painstaking history.

A good analysis of an elaborate history gives a clue to the correct diagnosis, and then some particular study may be indicated. Nothing in medicine should place emphasis on the clinical side more than when one is confronted with chest pain. If this is kept in mind, then many pitfalls can be avoided.

There are 75 listed causes of pain in the chest, therefore it is a symptom with many possible explanations.

Emphasis must be placed on a detailed history, and proper evaluation of all possibilities.

X-ray examination frequently fails to offer explanation of the pain. There may be various causes for pain in the same site.

PEDIATRICS

E. L. KENDIG, M.D., *Editor*, Richmond, Va.

INVESTIGATORS FIND THAT POLIOMYELITIS IS SPREAD BY PERSON TO PERSON CONTACT

THERE is a definite pattern to infantile paralysis and an epidemic may start months before any paralytic cases are recognized, according to Chicago and Buffalo investigators.¹

They report that evidence has been accumulated which points to the conclusion that the disease was prevalent in the initial community long before the first case of paralysis was recognized. This evidence is based on studies of the illnesses among contacts, both direct and indirect, of the first three cases of paralysis and on a knowledge of the minor illnesses, many of which were undoubtedly caused by the virus of poliomyelitis [infantile paralysis], which occurred in the school population during the months preceding the outbreak.

Multiple cases of poliomyelitis in the family were the rule rather than the exception when there were other children from 1½ to 8½ years of age in the home.

Poliomyelitis was found to be contagious perhaps to the degree of 90 per cent in the 1½ to 3½ age group but less infectious in the older groups.

There was no evidence that flies and other insects played a major role in the spread of the disease in the neighborhoods studied, once the disease had been introduced.

Only about 1½ out of 6 instances of poliomyelitis would have been diagnosed as such, even under an alert public health reporting system, without an intensive neighborhood study. Illness in the other cases of poliomyelitis was so mild in most instances that a physician was not consulted.

Paralysis developed in 1 case in 6, and 2 in 5 could be confirmed only by animal inoculations or by spinal fluid protein examination done two to seven weeks after onset.

1. Martha L. Smith et al., Buffalo, A. E. Casey, Birmingham, and W. I. Fishbein, Chicago, in *JL A. M. A.*, Dec. 22nd.

PSEUDO-GAS GANGRENE OF THE HAND

(A. D. Rubenstein et al., Boston, in *JL A. M. A.*, Nov. 3rd)

The rapid accumulation of gas beneath the skin of these patients suggests that a chemical may have been the responsible agent. Report is made of three cases of a new syndrome characterized by the rapid appearance of subcutaneous gas tumor masses within a few minutes after a superficial laceration of the hand occurred in two plants where an alloy composed of 90 per cent magnesium was being used. Each patient had handled this material in a finely powdered form prior to the occurrence of injury.

It is likely that an etiologic relationship of this alloy to the syndrome exists.

Because this syndrome may simulate gas gangrene it is important that its clinical characteristics be borne in mind in order that no unnecessary surgical procedures may be performed.

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

INDICATIONS AND CONTRAINDICATIONS TO GASTROSCOPY

THERE is a great variety of opinion as to the diagnostic value of viewing the interior of the stomach. A clinician¹ with a large experience of this diagnostic measure expresses himself conservatively and, to my mind, reasonably.

Gastroscopy should be performed on patients with positive or with negative findings only when the following indications are present:

When there is a long-standing history of obscure abdominal complaints with negative physical, laboratory and x-ray studies. Small, shallow gastric lesions, not detected by x-rays, are not infrequently found.

Neurotic patients with dyspeptic symptoms, but without positive findings on repeated examinations, should have gastroscopic examination before being sent for psychotherapy. Early carcinoma has been found in some of these patients called neurotic.

A patient with unexplained loss of weight, loss of appetite, or persisting nausea, may have an early gastric carcinoma not yet showing on the x-ray film.

Patients with unexplained hematemesis or melena when gross hemorrhage has subsided for a safe period of time should be so examined because small shallow bleeding ulcers, gastric erosion, hemorrhages from gastritis or even a high carcinoma of the corpus have been found.

Patients with positive x-ray findings or other definite evidences of disease, in order to confirm a difficult or a doubtful diagnosis, or to aid in differentiating between a malignant and a benign ulceration.

Kirschen does not believe that, except in the prepyloric region of the smaller curvature, there is a frequent incidence of benign ulcers of the stomach which become malignant later; he is sure that in cases in which this will occur, gastroscopy cannot be of much help in the early recognition of cancer. The gastroscopist finds it equally difficult as the pathologist to differentiate the benignancy of malignancy of a given lesion from gross observations in a borderline lesion.

The primary malignant ulcers which in their early course often simulate the symptomatology of a benign ulcer are sometimes diagnosed as malignant by gastroscopy before the röntgenologist's suspicions are aroused. There are recent reports that a malignant lesion will heal superficially under ulcer management, but later will break down in spite of this management. It is reasonable to assume that some of these cases would have been picked up by gastroscopy because of the increasing carcinomatous infiltration of the floor of the ulcer, at a time when the niche had disappeared röntgenologically.

1. M. M. Kirschen, Chicago, in *Ill. Med. Jl.*, Nov.

Patients with complaints after gastric resection or anastomosis are the most gratifying cases for gastroscopic examination. Poor functioning, or ulcerations at the stoma, not visualized by the x-ray, and the most severe and extensive gastric changes, are explanations for the absence of relief by the operation in these patients.

If a clinical and x-ray diagnosis of gastric cancer has been made inflammation of the gastric mucosa surrounding a cancer may simulate extensive invasion of the gastric wall on the x-ray film, while gastroscopy may help to reveal that the cancer is more limited and resection is still possible.

Gastric ulcers believed, on clinical and x-ray evidence, to be healed may still show activity gastroscopically. These are the cases which later are thought to be the recurrence of an old ulcer or a new cancer, but which are only a continuation of the primary process.

If the diagnosis of a duodenal ulcer has been made and a resection is contemplated, a preliminary gastroscopic examination is imperative. Severe gastritis is the cause for poor postoperative results in a number of cases; a preoperative gastritis has been present and adequate medical treatment might have prevented postoperative complications.

In cases of gastritis gastroscopy gives very little aid.

Kirschen questions the clinical significance of chronic gastritis from a practical point of view. Even the recent and somewhat better founded reports of the alleged relationship between atrophic gastritis, pernicious anemia and gastric cancer are still so vague that he has not changed his opinion in this matter.

The discomfort allegedly associated with a gastroscopic examination is so minimal with a good local anesthesia, that it cannot be an objection in indicated cases.

CLOSURE OF A DEFECT OF THE SKULL WITH TANTALUM

WHEN I was a small boy it was common talk in the neighborhood that a certain playmate of mine was so smart that his mother was going to have his skull trephined and a silver plate put in so as to give his brain room to grow.

From that time to this I have been interested to know if such an operation had ever been undertaken for any purpose.

A recent article¹ bears on this point.

Many materials have been used to replace bone removed from the skull by operative or accidental means. Years ago silver and celluloid were experimented with. Autogenous bone grafts are fairly successful, but the difficulty of obtaining and shaping large plates of bone and the possibility of nec-

¹ J. P. R. Farrington, Boulder, Col., in *Rocky Mtn. Med. Jl.*, Nov.

rosis and absorption make the method impractical for general use. Vitallium is an excellent alloy for this purpose. Usually a model of the defect is made at the first stage of operation. From this impression a plate is cast. At a second operation the plate is inserted and fastened into the defect. Vitallium cannot be bent to any marked extent or drilled or trimmed except by grinding tools.

The introduction of tantalum has aroused great interest in repairing unsightly and hazardous skull defects. Tantalum does not corrode in the tissues nor does it produce irritation. The body does not attempt to extrude this material. Moreover, tantalum sheets may be readily bent and shaped, trimmed with tin snips or heavy bandage scissors, or drilled with ordinary bone drills. It work-hardens rapidly so that the finished plate is much harder and doubtless more brittle than the original material.

The tantalum sheet has a natural tendency to curl slightly. This should be taken advantage of in shaping the insert. Smoothness and lack of residual internal stresses are obtained by pounding on the convex side of the sheet as it is held on a convex anvil, using a hammer made of plastic material or wood.

The final plate must be an exact fit. Any attempt to hold it under tension by screws or wires which spring it into contact with the bone will result in cutting loose of the screws or wires because of pressure necrosis of the bone.

It is probably best to drill the prosthesis in one or more places to prevent fluid from accumulating between the dura and the plate.

A case is reported of repair of a cranial defect $3\frac{1}{2} \times 6$ cms. produced by removal of portions of temporal and parietal bones.

TRI-STATE PROGRAM

February 25th-26th

A PROGRAM of unusual attractiveness and unusual value to our patients has been arranged, and an unusual number of our fellows and friends have indicated that they will participate in this meeting.

Following is a partial list of those who have accepted assignments to our program and the subjects they will present.

Dr. Thos. Brockman, Greenville—"Why All States Should Have a Basic Science Law."

Dr. Clay W. Evatt, Charleston—"Refraction Changes in Health and Sickness."

Dr. J. M. Feder, Anderson—"Adequate Laboratory Service for the Rural Hospital."

Dr. Katharine B. MacInnes, Columbia—"The Use of Vitamin K in Urticaria."

Dr. F. E. Kredel, Charleston (Med. Col. S. C.)

—“Surgical Relief of Post-Traumatic Pain, Including Painful Scars.”

Dr. George R. Wilkinson, Greenville — “Rheumatic Fever.”

Dr. Charles N. Wyatt, Greenville — “Medical Conditions as Found in the Middle East.”

Dr. David Cayer, Bowman Gray School of Medicine, Winston-Salem—“The Laboratory Diagnosis of Deficiency Diseases.”

Dr. Clyde Gilmore, Greensboro — “Functional Cardiovascular Disturbances.”

Dr. Walter Kempner, Duke University School of Medicine, Durham—“Some effects of the Rice Diet Treatment of Hypertension.”

Dr. J. Powell Williams, Dr. Alexander Brown, III, Dr. St. George Tucker, Jr. (Med. Col. of Va.), Richmond—“Malaria as Observed in North Africa and Italy.”

Dr. Robert P. Morehead (Bowman Gray School of Med.), Winston-Salem—“Mixed Tumors of the Salivary Glands.”

Dr. Sylvan A. Steiner, Washington—“Studies on Essential Hypertension.”

Dr. Jas. W. Watts and Dr. Walter Freeman, Washington—“Psychosurgery—Factors Influencing the Prognosis.”

Dr. Chas. Stanley White, Washington—“Intravenous Protein Solutions in Surgical Practice.”

Dr. Russell Buxton, Newport News—“The Use of Penicillin in the Treatment of Tetanus.”

Dr. J. Shelton Horsley & Dr. Guy W. Horsley, Richmond—“Results of Treating Cancer of the Breast With Radical Amputation and Bilateral Oophorectomy.”

Dr. Linwood D. Keyser, Roanoke — “Present-day Treatment of Urinary Stone.”

Dr. R. L. Raiford, Franklin, Va.—“Intravenous Anesthesia.”

Dr. Chas. R. Robins, Richmond—(subject not given us as yet).

Guest Speaker—Dr. Matthew T. Moore, Philadelphia—“Some Usual and Unusual Mechanisms of Abdominal Pain.”

President's Address—Dr. George H. Bunch, Columbia.

No risk of overstatement is run by saying that this program will supply the solution for more of your pressing problems of practice than has any program you have listened to, or are likely to be privileged to listen to, in a long, long time.

Make your arrangements for getting away. Make your hotel reservations. Then come and bring along a doctor friend.

WHAT TO DO FOR A PATIENT WITH INOPERABLE CANCER

For a number of years there was a North Carolina School for the Feeble-minded! Imagine being obliged, if you would write to your afflicted child, to address your letter to The School for the Feeble-minded; and reading the address on each communication from the child, or from those in charge of your child. Mercifully, through the efforts of some person or persons with humane instincts, the name was changed to The Eastern Carolina Training School.

Virginia has had for at least half a century a Home for Incurables! This is not only harsh and unfeeling; it is an unjust designation. Cure means care, with hope in most cases of restoration to health, but primarily and essentially, care.

Our Yankee friends are commonly accused of being hard-hearted; we Southerners claiming tenderer sensibilities.

A New York Surgeon¹ presents evidence to the contrary.

He tells us that 75 per cent of patients who came to the surgeon with inoperable cancer die within four years after the diagnosis is made; that outside of New York City 35 per cent of the cancer deaths occur in institutions; that 2.5 per cent of the total admissions to general hospitals in his section are for malignant disease; that the present development of special cancer facilities has not yet influenced favorably either the morbidity or the mortality from this disease. And he goes on:

Cancer mortality in New York State during 1944 was 177 per 100,000 population; for South Carolina the rate the same year was 50 per 100,000. Many factors must be appraised for such a broad difference. Treves realizes that the problem is the problem of the practitioner who ministers to these patients in their homes, that informing the relatives that the disease has reached an incurable stage is a duty of the general practitioner, who has had the patient returned to him following treatment by surgery or radiation therapy by the specialist.

Treves believes it to be better not to tell the patient the nature of his disease. As he well says, many patients who will ask to be told the worst are least fitted to know the truth.

Even against what appear to be hopeless odds there may be spontaneous regression and even disappearance of an advanced cancer. In all cases where there is no doubt as to the diagnosis some relative should be told the nature of the disease. The specialist and the family physician should keep each other advised, so that each may accomplish his part of the work to the immense advantage of the patient and the family.

“Never tell a cancer patient or his friends that

1. Norman Treves, New York City, in *N. Y. Med. Jl.*, Aug.

there is nothing to be done; so long as life lasts there is help to be given, and there are few forms of disease in which the doctor can earn more gratitude than he can by his management of a case of inoperable cancer." This journal has always maintained that a good doctor can do much for a patient so long as there is breath in him.

Other points made:

A physician should give drugs to relieve suffering so that life may go on with as little disturbance as possible and death may take place peacefully.

Sympathetic, cheerful, efficient nursing care is a great factor in caring for patients with incurable cancer. Frequent dressings diminish secondary infection and lessen the absorption of tumor toxins. Arrange comfortable positions for the patient and select nourishment with the addition of suitable vitamins.

Cancer often exists in conjunction with heart and kidney disease, diabetes, syphilis and tuberculosis, which require appropriate management. All measures that would improve the general condition should be resorted to. Iron by mouth and repeated transfusions of small amounts of whole blood are indicated. The favorable results of vitamin B complex, vitamins B₁ and C, A and D have been impressive.

Patients suffering from incurable cancer are eager for words of encouragement from the physician.

Patients with intra-oral lesions require liquid or soft diets, for easier swallowing. The caloric content should be as high as possible because the pain caused by swallowing may limit the amount of food taken. The patient can increase his diet if, shortly before mealtime, the mouth and throat are lightly anesthetized by being sprayed with a weak cocaine solution, or metycaine tablets of $\frac{1}{2}$ grain each may be dissolved on the tongue.

Cooked cereals with cream, with large amounts of carbohydrates, preferably lactose, added, may be taken with little difficulty. Milk, with the addition of glucose or lactose, powdered milk, eggs, and creamed soups are among the best foods. One should attempt to give a diet of 3,000 or 4,000 calories. Such a diet may be administered by nasal feedings in intra-oral cancer, as well as by gastrostomy or jejunostomy administration.

Nausea, regurgitation and vomiting may result from excessive nasal secretion, cough, headache, metastases to the skull or brain, gastritis, gastric or intestinal obstruction, or from the absorption of toxins.

This good surgeon tells us we should not say nothing can be done for a patient with inoperable cancer. He tells us why we should not say this. He tells us what we should do and how we should

do it. How many of us can read all this without realizing that we have more than once fallen short of our obligations in these cases? And without resolving to discharge these obligations more faithfully and intelligently from now on?

DOCTOR EVAN M. HUTCHENS

EVAN MARSHALL HUTCHENS was born on November 1st, 1869, in Yadkin County. He was licensed to practice medicine on May 14th, 1896, shortly afterwards locating at Booneville, N. C. He later moved to North Wilkesboro, N. C., where he made his home until his death on October 30th, 1945. He is survived by his wife, Mrs. Dora Bovender Hutchens, and three sons, all of North Wilkesboro.

When Dr. Hutchens began the practice of medicine many of the roads could be traveled only on horseback, and oftentimes in winter it was necessary to walk a considerable distance over paths where a horse could not go. With the advent of better roads and the automobile, practice became much easier, so far as travel was concerned, but in other ways much more strenuous and difficult.

In the era when Dr. Hutchens began to practice medicine only the strong and hardy could stand the terrific strain. On duty day and night, year after year, these gallant men performed glorious deeds. They ushered in the newborn, cared for the children, the adults and the aged; and they were warm personal friends and confidants of the entire family. Doctors of this type reached the highest pinnacle of self-sacrifice. They were great benefactors of the communities which they served, and of mankind generally.

The medical profession of that day as well as this stood at the top of the list. Our profession today owes much of the prestige, honor, and high esteem in which it is held by all thoughtful and appreciative people to that great army of earlier doctors. Dr. Hutchens was one of the outstanding men of this group. Able, efficient, quiet, unassuming but determined, a hard worker, conscientious in everything, he always gave his patients the best of care and attention regardless of race or circumstances. He was held in the highest esteem by his patients, by his fellow doctors and by all those who knew him personally or by reputation.

When World War II began and a shortage of doctors rapidly developed, he worked harder than ever at the time in life when he should have been slowing up. He felt it his duty, however, to do everything he possibly could for the sick in his community, never sparing himself. Long years of hard work, caring for a large practice in all sorts of weather, took its toll of his strength and vitality. The added burdens which he assumed in taking care of the community during the trying times



DOCTOR EVAN MARSHALL HUTCHENS

which are still with us probably shortened his days by many years.

To the world at large, the heroes are those who in time of war perform valiant deeds far beyond that expected of them. For such deeds we are all proud and happy to give these heroes words of appreciation and medals and citations. However, doctors like Dr. Hutchens also performed countless deeds of heroism, in saving lives, restoring the sick to health, and in a thousand ways proving themselves benefactors of humanity.

To casual observers—especially those who have not had the misfortune to have sickness in their homes, such deeds as these appear commonplace. To thoughtful and appreciative people, however, and especially to those who have been relieved of pain and restored to health, these heroes of the world's greatest profession and their wonderful work for humanity will always be remembered. The Supreme Architect of the Universe does not permit the memory of such good deeds to pass into oblivion, but they are forever enshrined in the memory of mankind.

I have talked with many people in all walks of life and of various professions and vocations who have expressed a great wish that they too could have been doctors. Many others doubtless down in the bottom of their hearts and among their innermost thoughts have entertained a like wish. This is not strange, for these benefactors of humanity are appreciated and respected, and besides, they have that sublime sense of personal satisfaction which transcends all other earthly remuneration.

The achievements of the medical profession are so numerous and great that it would require many large volumes to set forth even a part of them. Through the efforts, discoveries and work of the medical profession the span of life has been almost doubled in the past sixty years. Many diseases that in the past have destroyed millions are now practically eradicated. Other diseases which years ago were usually fatal can now be cured. Through sanitation and preventive medicine sickness has been greatly reduced. The health of our people is the best in our history and the mortality the lowest. Surgery has been developed in every way and has saved the lives of millions. Practically painless childbirth has been made possible. Infant mortality has been reduced to a small fraction of what it once was, and the general health of all people in America has reached the highest point of all time. The American people today have the best medical care and attention of any country on earth. All these achievements have been the result of the thoughtful work, sacrifices and efforts of the entire medical profession which now feels that it is just getting started on its great work.

Dr. Hutchens was a worthy and honest member of our profession. He exemplified in his daily work the best traditions of the family doctor, the keystone of the medical arch. His place will be difficult to fill. He loved his profession and the people among whom he practiced. He was happy in his work. In his passing the medical profession has lost one of its ablest and best-loved members.

Dr. Hutchens was a great doctor, a good father, a good husband, a good man. He was a Christian and a faithful member of the Baptist Church. To his patients and their families he was medical adviser, family counsellor, trusted elder brother. His presence in the sick room comforted and cheered the patient and relieved the fears of the family and friends. A sympathetic and understanding friend, he was the soul of comfort and cheer to all members of the family in times of grief and distress.

This tribute is written to express the writer's deep appreciation of the warm, steadfast and faithful friendship of this great physician who has passed on to that happy land where all good doctors go.

—JAMES W. DAVIS.

THE EFFECT OF FLUORESCENT LIGHT ON VISION (*The Diplomate*, Dec., 1945)

The Joint Committee on Industrial Ophthalmology, representing the Section on Ophthalmology of the A. M. A. and the Amer. Acad. of Ophthalmology and Otolaryngology, after consultation with specialists in the production and use of light, holds the following opinion:

The ultraviolet energy [said by some to be an injurious component of fluorescent light] from clear blue summer skylight is three to four times as great per foot-candle as fluorescent light.

Light from fluorescent lamps resembles daylight more closely than that from tungsten-filament lamps. This color resemblance to daylight is a desirable quality. Infra-red energy found in fluorescent lighting as now manufactured produces no known physiologic effect except that due to heating. Fluorescent light generates less heat per candle-power than tungsten lamps.

Glare occurs in any system of lighting. Its solution rests with illuminating engineers.

Individual differences occur in the level of illumination (foot-candles) required to provide a satisfactory degree of visual efficiency and eye comfort. Twenty foot-candles is essential for such critical tasks as reading. Higher levels of illumination are desirable for prolonged seeing, for discrimination of fine details, and where low contrast prevails. These standards can be readily maintained in working places through use of properly installed fluorescent lighting.

Excessive light may produce symptoms of eye-strain in susceptible individuals regardless of source. Constitutional factors should be corrected as well as the amount and kind of light.

Noticeable flicker is largely eliminated in modern fluorescent installations.

President's Message

THE SOUTH CAROLINA members of the Tri-State Medical Association will always regret that the 1945 meeting, which was to have been held in Columbia, had to be abandoned because of government regulation. Now that the war is over and there are no longer priorities in railroad accommodations, the organization is to resume its normal activities. We are glad to announce that our efficient secretary has arranged for the 1946 meeting to be held at the Jefferson Hotel in Richmond, Virginia, February 25th and 26th. This is only a few weeks away and an excellent scientific program with noted guest speakers is assured. A large attendance is anticipated. Those of us who were not in the armed forces will welcome this opportunity to get away from work and to visit historic Richmond. Those who have returned from service will find the papers and discussions most helpful in aiding them in their readjustment to civil practice.

The Tri-State, in Virginia and the Carolinas, has become a cherished tradition noted over a half-century for its many notable contributions to scientific medicine and for the promotion of good-fellowship among its members. May we foster this tradition by making railroad and hotel reservations now for the approaching meeting. May each of us join in the discussions so that the rest of us may have the benefit of his counsel and experience.

—GEORGE H. BUNCH.

NEWS

ERWIN MILLS COMPANY TURNS OVER PRIVATE HOSPITAL TO NEW ORGANIZATION

Erwin Mills officials at Durham have turned over Good Hope Hospital and its nurses home at Erwin to a public hospital association, recently organized as Good Hope Hospital, Inc., with W. H. Muse, president, Leonidas Jackson, vice-president, E. G. Purcell, secretary, and R. S. Kelly, treasurer. All four are business men in the Erwin community.

The hospital was built in 1927 by the Erwin Cotton Mills Company and has been serving the community since that time as a private institution under the direction of Dr. W. P. Holt, physician and surgeon of Erwin. Lena McNeil has been superintendent of the hospital and will continue to serve in that capacity.

GENERAL LULL LEAVES SGO TO BECOME SECRETARY AND GENERAL MANAGER OF THE A. M. A.

Major General George F. Lull, Deputy Surgeon General of the Army, whose notable record in that capacity won him the Distinguished Service Medal, the highest non-combatant award, has retired from the Army after 33 years of service with the Medical Corps. General Lull will become Secretary and General Manager of the American Medical Association in July, when the retirement of Dr. Olin West, the present Secretary and General Manager, becomes effective, but he will immediately join the staff of the A. M. A. to familiarize himself with the work of the organization.

Born in Pennsylvania March 10th, 1887, General Lull received his M.D. degree from Jefferson Medical College in 1909, a Certificate of Public Health from Harvard Technology School of Public Health in 1921, and his degree of Doctor of Public Health from the University of Pennsylvania in 1922. He is an honor graduate of the 1913 class of the Army Medical School.

THE AMERICAN COLLEGE OF PHYSICIANS will resume its Annual Meetings in 1946 and has now definitely chosen Philadelphia, May 13th-17th, inclusive. Headquarters will be at the Philadelphia Municipal Auditorium, 34th Street below Spruce.

The meeting will be conducted under the Presidency of Dr. Ernest E. Irons, Chicago, and the General Chairmanship of Dr. George Morris Piersol, Philadelphia.

MARLBORO COUNTY (S. C.) MEDICAL SOCIETY

The Twenty-fifth Annual New Year's Meeting of this notable medical society was held at the Country Club, Bennettsville, the evening of January 10th.

Refreshments were served from 5:30 to 6:30, when an elaborate dinner came on.

Further program:

Introduction of President of South Carolina Medical Association—Remarks: Dr. W. Thos. Brockman, Greenville, S. C.

Introduction of President-Elect of South Carolina Medical Association—Remarks: Dr. Jas. C. McLeod, Florence, S. C.

The Principles of Fracture Treatment: Dr. J. Warren White, Chief Surgeon, Shriners' Hospital for Crippled Children, Greenville, S. C. Discussion by Dr. F. A. Hoshall, Charleston, S. C.

The Laboratory Diagnosis of Deficiency Diseases: Dr. David Cayer, Professor of Medicine, Bowman Gray Medical School, Winston-Salem, N. C. Discussion by Dr. Robt. B. Stith, Florence, S. C.

SEABOARD MEDICAL ASSOCIATION

Dr. Thomas Leslie Lee, of Kinston, N. C., was elected president of the Seaboard Medical Association as the eastern Virginia and North Carolina physicians concluded their fifteenth annual convention at Virginia Beach, Dec. 13th.

Dr. Lee succeeds Dr. A. A. Burke, of Norfolk, as head of the organization.

Dr. Clarence Porter Jones, Jr., Newport News, was elected first vice-president, and Dr. Clarence Porter Jones, Sr., also of Newport News, was re-elected for his consecutive term as secretary-treasurer.

A symposium of medical topics was conducted by 15 prominent physicians of Virginia and North Carolina, after which Dr. Thomas Parran, surgeon general of the U. S. P. H. S., delivered an address urging support of President Truman's five-point national health program.

A. B. MYERS MAKES HANDSOME DONATION TOWARD NEW GASTONIA HOSPITAL

Personal holdings, some \$75,000, of A. B. Myers in the 68-Bed Gastonia City Hospital have been donated to a fund to be used in construction of a new 300-bed memorial hospital here. Myers is president of Textiles, Inc., a Gaston County concern.

WAKE PHYSICIANS ELECT OFFICERS

Dr. Robert L. McGee has been elected president of the Wake County Medical Society to serve during 1946. Other officers elected were: Dr. Annie Louise Wilkerson, vice-president, and Dr. Carl Liles, secretary. Dr. Thomas Umphlett and Dr. Verne S. Caviness, delegates to the State Medical Society, Dr. Ben Lawrence and Dr. Joseph J. Combs, alternates.

METASTASES, MEDICAL & SURGICAL

Following is a review of this book in *Medical Times*:

This tabulation of medical and surgical metastases, with its running comments of illuminative character, will be of great pathologic and clinical aid to general practitioners, surgeons and roentgenologists engaged in the tracing of such traveling processes as infection, embolism and infarction and the dissemination of neoplasms. Diagnostically, the skilfully organized data are utilizable in working either from source to metastasis or in reverse, so to speak—from metastasis to source. It is a product of extensive research which invokes effectively a technic that suggests the Sherlockian detective's utilization of clues, laboriously marshalled, likely to be missed by the Watsons of the world, thus it is bound better to implement and therefore augment one's clinical insight. The author's commendable efforts yield fascinating shortcuts for the busy clinician.

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NASH-EDGECOMBE (N. C.) MEDICAL SOCIETY

Dr. J. R. Vann, of Spring Hope, is the new president of the Nash-Edgecombe Medical Society. Other officers: Dr. M. W. DeLoatch, of Tarboro, first vice-president; Dr. R. D. Kornegay, of Rocky Mount, second vice-president; Dr. C. Gordon Smith, of Rocky Mount, secretary and treasurer.

Dr. N. P. Battle and Dr. A. L. Daughtridge, both of Rocky Mount, were elected to serve as delegates to the State society. The board of censors was named as follows: Dr. A. T. Thorp, chairman, Dr. C. T. Smith, of Rocky Mount, and Dr. J. G. Raby, of Tarboro.

Guest speaker at the meeting, Dr. R. P. Morehead, of the department of pathology at the Bowman-Gray School of Medicine, Winston-Salem, discussed Intra-thoracic Tumors.

UNIVERSITY OF NORTH CAROLINA.—President Caldwell, in 1830-31, caused to be constructed at his own expense, to the amount of \$430.29%, at a site near the university campus, a brick astronomical observatory. This was one of the first, if not the first, building erected specifically for astronomical observations in North America.—Wm. deB. MacNider, in *The Diplomat*, Aug.-Sept.

DR. O. HUNTER JONES has reopened his offices, Suite 222 Professional Building, Charlotte, N. C. Practice Limited to Obstetrics and Gynecology. Certified, American Board of Obstetrics and Gynecology.

DR. CLAUDE C. COLEMAN and DR. JOHN M. MEREDITH announce the association of DR. CHARLES E. TROLANO, recently Major, Medical Corps, Army of the United States, in the practice of Neurological Surgery. 1200 East Broad Street, Richmond 19, Virginia.

DR. W. L. VENNING announces the opening of offices at 503 Professional Building, Charlotte, N. C. Practice limited to Pediatrics.

THE NALLE CLINIC announces that DR. ROY S. BIGHAM, Jr., lately of the Research Staff of the Hopkins, has joined its department of Internal Medicine, devoting special attention to disorders of metabolism.

MARRIED

Dr. Paul Ward Robinett, Huntington, West Virginia, and Miss Shirley Harwood Kersey, of Richmond, were married on December 31st. They will live in Boston.

Dr. Richard Anderson Michaux and Miss Julia Gray Saunders, both of Richmond, were married December 8th.

DR. FRANK NEVILLE BUCK, JR., of Portsmouth, and Miss Alice Marjorie Marshall, of Louisa, Virginia, were married on December 21st.

Miss Cassie May Cowell, of Bayboro, and Dr. Dudley Ross Coppage, of Vanceboro and New Bern, were married on New Year's Day, at Arapahoe, N. C. Dr. W. F. Coppage, of Vanceboro, attended his brother as best man. Ushers were Edwin Robinson, of Greenville, Dr. Joseph C. Bateman, of Ayden, and Jack D. Brinson, of Arapahoe.

DIED

DR. JAMES WILKINSON JERVEY died at his home at Greenville, S. C., the morning of November 1st, soon after he had passed his 71st birthday.

Dr. Jersey was born in Charleston, received his educa-

tion in the schools of Charleston and the University of South Carolina and his medical degree from the Medical College of the State of South Carolina. In 1898 he began the practice of ophthalmology and otolaryngology in Greenville. At various times he pursued special studies in American and in European clinics. His ability and his skill were widely acclaimed.

DR. G. C. CADDELL, 59, practicing physician at Hoffman, N. C., for the past 29 years, died Dec. 20th in the Pinehurst Hospital following a heart attack.

Dr. Caddell had served on the Richmond County Board of Commissioners since 1922 and had been chairman of the board for the past 12 years.

Among the survivors is a son, G. C. Caddell, Jr., a student at Bowman Gray School of Medicine, Winston-Salem, N. C.

DR. HENRY L. SCARBOROUGH, 59, prominent physician of Conway, S. C., died of a heart attack suddenly Dec. 18th. Dr. Scarborough was born at Conway, graduated from the local high school, the University of South Carolina and the Medical College of the State at Charleston. He was a member of the staff of the Conway Hospital, Horry County and the South Carolina Medical Society, the Methodist Church, the Chamber of Commerce and the Lions Club, of which he was vice-president. He was a member of the Conway Masonic Lodge.

DR. JOHN M. McMILLAN, 63-year-old physician of Candor, N. C., died Dec. 20th in Moore County Hospital at Pinehurst after an illness of 10 days. He had been a practicing physician for 36 years, including more than 20 years at Candor.

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UNIVERSITY OF VIRGINIA

Dr. Chalmers Laughlin Gemmill, Associate Professor of Physiology at Johns Hopkins Medical School and for the past four years on leave of absence as Commander in the Medical Corps, USNR, in charge of aviation medicine research at the Naval Air Station in Pensacola, Florida, has been appointed Professor of Pharmacology in the School of Medicine as successor to the late Dr. James Alexander Waddell.

Dr. Henry B. Mulholland spoke on September 25th at meetings of the Danville Medical Society and the Danville Rotary Club on The Need for Medical Care and Hospitals in Virginia. Dr. Mulholland attended the meeting of the Council on Public Relations and Medical Care which was held in Chicago on October 19th and 20th.

Dr. Vincent W. Archer presented a paper written by Dr. Archer and Dr. Norman Adair on Röntgen Diagnosis of Placenta Praevia without Contrast Material at the meeting of the Southern Medical Association held in Cincinnati on November 12th through 15th. Dr. Archer attended the North Carolina State Medical Meeting and presented a paper on Bone Lesions in Children.

Dr. H. E. Jordan and Dr. H. B. Mulholland attended the annual meeting of the Association of American Medical Colleges in Pittsburgh on October 29th and 30th.

The Faculty of the School of Medicine gave a Home-Coming Reception for the personnel of the Eighth Evacuation Hospital. Recently returned from service in North Africa and Italy, on Sunday afternoon, November 11th. Brief talks were made by Dean H. E. Jordan, Col. E. C. Drash, Captain Ruth Beery and Chaplain William H. Laird. Views of the various activities of the Unit were shown by Captain W. P. Snavely.

The Department of Medicine of the University of Virginia, in conjunction with the Medical College of Virginia, is planning to offer an intensive two-weeks Refresher Course in General Medicine every three months for the next year. These courses will be comprised of lectures, clinics, ward rounds, clinicopathological conferences and round-table discussions. The first course, from December 3d to December 15th, was given at the University of Virginia. Those desiring information about the course to be given by the Medical College of Virginia in March and September should address Dean J. P. Gray, Medical College of Virginia, Richmond. While this course is planned primarily for returning veterans, civilians will be accepted insofar as places are available to a limit of fifty.

BOOKS

PERSONALITY FACTORS IN COUNSELING, by CHARLES A. CURRAN, Ph.D., St. Charles College, Columbus, Ohio. Preface by MICHAEL J. READY, Bishop of Columbus; Introduction by CARL R. ROGERS, Professor of Psychology, University of Chicago. *Grune & Stratton*, 381 Fourth Avenue, New York City. 1945. \$4.00.

The careful analysis of 20 interviews shows the gradual unfolding of a mind and adjustments following maladjustments. The author is convinced that each individual has within himself the power to make independent choice and to follow the course chosen by himself. He offers valuable suggestions for the solution of emotional problems, and is a stimulant to the kind of thinking which will broaden the concepts of those interested in helping themselves and others. The teaching will prove helpful to all those who deal with the sick in body and in mind, and to educators, ministers and social workers.

MEN WITHOUT GUNS, text by DEWITT MACKENZIE, War Analyst of The Associated Press; descriptive captions by MAJOR CLARENCE WORDEN, Medical Department of the United States Army. Foreword by MAJOR GENERAL NORMAN T. KIRK, Surgeon General of the United States Army. Illustrated with 137 plates from The Abbott Collection of paintings owned by the United States Government. *The Blakiston Company*, 1012 Walnut Ave., Philadelphia 5. 1945. \$5.00.

This book records in words and pictures the wonderful work of the Army Medical Corps in World War II. As General Kirk's foreword well says: "No artist ever had a worthier subject for his brush than had the twelve distinguished painters whose canvases are reproduced in this volume." And he might have gone on to say that these twelve distinguished painters will ever be even more distinguished because of the manner in which they have performed the illustrative work for this volume.

Very fittingly Chapter I is headed "Introducing the Corpsman," and fittingly it pays tribute to the corpsman for his invaluable services. Then come chapters on "Doctor to the Army," "Southwest Pacific," "Saipan," "Italy," "D-Day in Normandy," "Burma Road," "The Warrior Comes Home."

The paintings deal with such subjects as "Jungle-Ally of the Enemy," "Night Duty," "Pacific Black Diamonds," "Pill Call," "End of a Busy Day," "Front-Line Surgery," "Collecting Station," "Return to the Golden Gate," "Race Against Death," "South-Sea Island Paradise," "Soup's On," "Hiding Out," "Medical Supply Dump," "Sick Bay," "Pacific Base Hospital," "Jap Compound in Saipan," "Normandy Victory Cargo," "Sunday in Normandy," "Return Cargo," "Life-Giving Plasma," "Jungle Trail," "Evacuation Under Fire," "Anopheles Home Front," "Visiting

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PSYCHOLOGY IN NURSING PRACTICE, by PHILIP LAWRENCE HARRIMAN, Ph.D., Professor of Psychology, Bucknell University; LELA L. GREENWOOD, B.A., R.N., Teaching Supervisor of Medical Pavilion, Bellevue Hospital, New York City, Assistant Instructor, Department of Therapeutics, New York University Medical College, and CHARLES E. SKINNER, Ph.D., Professor of Education, New York University, New York City. *The Macmillan Company*, 60 Fifth Avenue, New York City. \$3.25.

This book was written for nurses in training and nurses in active practice, and an excellent book it is. Its teaching for nurses would be just as valuable for doctors, indeed for any thoughtful person of good education.

PSYCHOANALYZE YOURSELF, by E. PICKWORTH FARROW, N.A., D.Sc., with foreword by the late PROFESSOR SIGMUND FREUD, M.D., LL.D., Form. Mem. R. S. *International Universities Press*, 227 West 13th Street, New York 11, N. Y. 1945. \$2.00.

Probably the best review of the book is represented by the foreword which is quoted verbatim:

The author of this book is known to me as a man of strong and independent intelligence who, probably on account of a certain wilfulness of character, could not get on well with the two analysts with whom he experimented. He then had recourse to a consistent application of the process of self-analysis which I had once used myself in order to analyze my own dreams. His results deserve notice, especially because of his special individuality and his technique.

INTERNAL MEDICINE: Its Theory and Practice. In Contributions by American Authors. Edited by JOHN H. MUSSER, B.S., M.D., F.A.C.P., Professor of Medicine in the Tulane University of Louisiana School of Medicine; Senior Visiting Physician to the Charity Hospital, New Orleans, Louisiana. Fourth edition, thoroughly revised, published 1945. Large octavo, 1518 pages, illustrated. *Lea & Febiger*, Washington Square, Philadelphia 6, Pa. Cloth, \$10.

The design is to give to the undergraduate student a textbook by qualified authors able to present the essentials. Its second purpose was to give to the practitioner a work of ready reference so documented that he could go to the sources of material or to the best contributions of medical literature for more detailed information. In this fourth edition these purposes have been well fulfilled.

The new material added has required 100 more pages, in spite of the deletions made in many sections. These numerous changes and additions deal for the most part with the newer therapies; the sulfonamides, penicillin, thiouracil and many others. Space has been devoted to the problems of war medicine, notably in conjunction with the protozoan diseases and the acute infectious diseases. Military neuropsychiatric disabilities, war neurology and altitude sickness all receive due attention.

Nineteen of the 26 chapters are prepared by heads of medical school departments, the remaining seven by authors who are heads of special divisions in departments of medicine—experienced writers as well as teachers.

CHUCKLES

A lady psychiatrist questioning a patient: "What would you say would be the difference between a little boy and a dwarf?" The patient thought a while and said, "Well, there might be a lot of difference." "What, for instance?" asked the psychiatrist encouragingly. "Well," replied the patient, "the dwarf might be a girl."

A minister invited to preach in a sanitarium, as usual, started his sermon with: "Why are we all here, why are we all here?" From the audience came a voice: "We're all here because we're not all there."

Army Surgeon: "None of you paratroopers are sick, are you?"

Paratrooper: "I'm not really sick, Major, but I'd hate like hell to yawn."

English Teacher: "Name a collective noun."

Student: "Garbage can."

"Well," said the psychoanalyst, "you're cured at last. How do you feel?"

"I feel," said the patient, looking at his pocketbook, sadly. "I feel as if I must start life all over again."

Scientists say women are eating more; they certainly have the figures to prove it.

Doctor: "Why did you deduct twenty-five cents when you paid my bill?"

Patient: "That was for the three cigars you broke when you thumped my chest."

"Pilot," said the timid female passenger, "what do we do if we are in the air and the engine fails?"

"Open parachute and drop."

"Suppose the parachute fails?"

"Flap your arms and say 'I'm a dicky bird.'"

ONE FELLOW KEPT BUSY

A person is injured in a home accident every six and one-half seconds, says the National Safety Council. That means that injuries from home accidents total more than 13,000 every day in the year.—*The Health Bulletin*.

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JAMES M. NORTHINGTON, M.D., Editor

VOL. CVIII

FEBRUARY, 1946

No. 2

For Early Diagnosis of Cancer of the Stomach

J. FRED NASH, M.D., St. Pauls, North Carolina

THE CLINICIAN sees the patient either in the initial stages or in full swing of the malady, the pathologist surveys the terminal event. The first stages are probably reversible. Alvarez asks: "How early do physicians diagnose cancer of the stomach in themselves?" His analysis of 41 cases, all operated upon, is not productive of complacency. A reasonable general appraisal of responsibility for delay in diagnosis of carcinoma holds patients alone responsible in 55% of the cases, physicians alone in 17%, and both doctors and patients in the remainder. The explanation is obvious; the classic syndrome of gastric cancer is not volunteered by the patient because it has not developed. In a vast number of cases symptoms could be elicited through searching inquiry. A study of a large series of autopsies has shown that a far greater percentage of ulcers or scars of ulcers was found in the stomach than in the duodenum, with the inference that gastric ulcers more readily escape diagnostic discernment than do duodenal ulcers—convincing testimony of the need for early diagnosis in gastric lesions.

It has been stated that of every 100 patients with gastric carcinoma entering American hospitals, some 50 are inoperable, 25 resectable, and 25 capable of only palliative surgery.

An article on an important subject which starts off in such a sensible way is bound to be worth elaboration and passing on to doctors who will not learn its lessons by reading it in the specialists' publication.¹

The always-wise Alvarez calls attention to the infrequency of doctors recognizing early cancer of the stomach in their own persons, as evidence of the intrinsic difficulty of such recognition. The percentage assignment of blame for delay in judgment appears to be just about right; and it is far different from the usual assignment of the blame in every case to the family doctor. I would have blamed nobody for 20% of such cases, ascribing the failures to limitations of knowledge, of the wisest, even.

The article goes on to cite principles and cases and to fill them out, study of which will certainly enable us to save lives now being lost.

Lesser gastric curvature ulcers are attended with hyperchlorhydria, bear potentiality for malignant degeneration and, therefore, indicate a close follow-up. On the other hand, cases of achlorhydria, particularly familial, even more pointedly require continued clinical observation.

An adequate history serves as a precision instrument in diagnosis. This statement can bear repetition and reiteration. Patients with benign ulcers tend to have long histories, while those with cancer tend to have short ones. When a long history presents itself with a decrease in remissions and accentuation of symptoms, transformation of benignity into malignancy is to be expected.

We are accustomed to think of cancer as a chronic disease. We must accept this teaching that the patient whose cancer can be usefully removed tells you he has been feeling bad for only a short time.

1. Meyer Golob, New York, in *Amer. Jl. Digestive Diseases*, Jan.

The authoritative statement that symptoms, even vague symptoms, must take precedence over signs, even x-ray signs, gives the practitioner encouragement to proceed on his own best conceived ideas of saving as many as possible of his patients whom he suspects of having stomach cancer. Over a number of years we have accepted the teaching that tuberculosis must be diagnosed before signs can be elicited; now we are faced with the same situation as to cancer. All of us have seen patients come with only the vaguest kind of digestive symptoms, only to be found the victims of cancer of the stomach too far advanced for any kind of cure.

Here is an emphatic lesson as to the need for having a good doctor of medicine, specially trained in röntgenology, make the pictures and help us to determine what they tell.

For decades it has been known that gastric cancer is peculiarly prone to creep up on the patient, that vague, slight digestive symptoms which persist for even a few weeks demand careful investigation, *with cancer in the doctor's mind but not on his tongue.*

The cases reviewed illustrate that neither the age of the patient, nor the presence of achlorhydria or hyperchlorhydria, nor the size of a gastric lesion should lessen our suspicion of gastric carcinoma. To assume benignity of diminution in size, and clinical response to treatment is hazardous. Practically every early case of gastric cancer, when treated medically for ulcer, shows relief of clinical symptoms for a time. Diagnosis is more convincing when based on the combination of röntgenologic and clinical evidence; however, when the two are at variance, greater dependence should be placed on clinical evidence. Thus the task of early diagnosis falls on the clinician; röntgenology is largely an exposé of advanced pathology. Major criteria for diagnosis are preferable to minor criteria, but in their absence, the latter assume major diagnostic significance. To wait until the whole ensemble of classic signs and symptoms present themselves is a dangerous approach in the assessment of a gastric lesion.

Alvarez notes that one of every nine patients with cancer of the stomach is less than 45. When two diseases are possibilities, with equal evidence for each, the chances favor the commoner of the two, but discretion demands that we pay great consideration to the more dangerous.

When found in the younger age group cancer is usually of a violently malignant nature, with morbidity and mortality high. It may be that high mortality is not engendered so much by virulence in youth as by the fact that the condition is for this reason of youth seldom considered a diagnostic possibility, and the disease is far advanced by the time surgery is undertaken.

The term "cancer age" is misleading and does great harm in two ways: its use produces a state of hypochondriasis in the old, and it gives rise to a false sense of security in those outside this period of life. Gastric carcinoma may occur at any age, and the so-called cancer age is much less valuable as a diagnostic criterion than the minor digestive symptoms that are so frequently associated with the disease.

Plainly, we must accept and teach the fact that any age is a cancer age.

Vagueness in symptoms in cancer of the stomach is to be regarded as a definite presentation of the malady with persuasive diagnostic properties. Painlessness is little evidence against the diagnosis of cancer of the stomach, and the farther removed the growth from the two extremes of the stomach the later are symptoms likely to appear. We must endeavor to detect the disease in the phase of lack of impressive signs or symptoms; as when neither the cardiac nor the pyloric orifice is involved, and so there is no hesitation in food entrance and no obstruction to food exit. Suggestive symptoms, however faint, call for searching inquiry. The easier it is to diagnose cancer the harder it is to cure.

A man, 64, presented himself with a textbook description of cancer of the stomach. He was highly optimistic about regaining his health, because on repeated x-ray examinations, "no pathology" had been found. He came for aid to ease his symptoms. This report deserves more than passing reference, since the röntgenologist of a very prosperous commercial laboratory had made his survey only four days after a private physician had found unequivocal evidence of an advanced neoplasm of the cardiac third of the stomach. What is even more impressive in this case is that, owing to "smoothness," the lesion was interpreted as being either syphilis or sarcoma. The patient looked for a reversal of this diagnosis and, unfortunately, found it in the commercial laboratory. The loss of time was clinically too obvious. The surgical finding was inoperable carcinoma. In this instance the patient would have benefited had age incidence been considered as against either syphilis or sarcoma.

A man, 45, presenting symptoms of 3-months' duration and a duodenal-ulcer-symptom complex lacking only nocturnal episodes of pain. Since the clinical picture was not conclusive with respect to a peptic ulcer, and did not correlate with the gastric chemistry, the patient was re-x-rayed after five weeks, when there showed a definite prepyloric lesion. The patient had anorexia, weight loss and asthenia.

This case is one of a vast number which are treated for the lesser evil with a total disregard

for probable cancer. A survey of the histories of referred cases showed that the physician accepted the atypical demeanor of a peptic ulcer and its classic rhythm with equal evaluation. It is preferable to suspect and not find than not to suspect and find too much. Where there is pre-pyloric irregularity, but nothing pathognomonic of a duodenal ulcer, when interpreted in terms of history, gastric chemistry and other laboratory aids, cancer should be the tentative diagnosis until proved incorrect.

A woman, 60, in May complains of fatigue, negligible weight loss, indifferent appetite. Physical findings negative. The sole laboratory test was a low hemoglobin. A case similar in age and clinical picture received the same diagnosis. Both these patients returned in early fall with incurable gastric carcinoma.

Normal gastric secretion does not militate against a diagnosis of gastric carcinoma, but, according to Hartman, "a patient with a resectable carcinoma and anacidity has a 44% chance of at least five years of life postoperatively, twice the chance of a similar patient with free HCl."

A man, 31, presented himself to a very eminent physician with symptoms for seven months, not descriptive of a post-pyloric lesion, gastric chemistry within normal range, duodenal bulb somewhat irregular, not conclusive for duodenal ulcer. The greater curvature showed a persistent, serrated defect involving the distal half of the stomach. Rapid gastric clearance was evident. This case was diagnosed as duodenal ulcer, and a Sippy regimen instituted for one year, when the clinical picture of malignancy was plain. Laparotomy revealed an inoperable carcinoma of the greater curvature. The age, the acid gastric secretion not consistent with a duodenal ulcer, were entirely ignored. Test therapy for a whole year is much too long. X-ray of the stomach revealed the identical finger nail defects which had been interpreted a year before as either accentuated rugae or pressure defects from gas in the transverse colon.

A woman, 52, had gastric disturbances for many years. The gastric chemistry was not informing, but occult blood was intensely positive. There was nothing in the history of sufficient substance to build up a malignant syndrome. X-ray of the stomach showed a persistent defect along the lesser curvature. Golob advised surgery despite an unusually small plus defect on the mid-lesser curvature. This patient had canvassed an array of medical talent. The veneer of neurosis was sufficiently thick to turn many an examiner of x-ray films away from considering a basic cause. The writer was labelled an alarmist. This case finally reached Chevalier Jackson, Jr., who diagnosed inoperable gastric cancer.

A man, 55, who had been diagnosed as having a gastric ulcer for 20 years, presented himself with an upper respiratory infection and aggravation of stomach symptoms and some tenderness in the epigastrium. Tests revealed normal gastric motility and secretion; x-ray revealed a lesser curvature filling defect near the cardiac third of the stomach. The patient was hospitalized and placed on a Sippy regimen. Repeated x-ray examinations gave evidence that the ulcer had diminished in size. Clinical improvement lagged behind, ten weeks elapsed between first presentation with symptoms not depicting gastric carcinoma and the occurrence of a massive gastric hemorrhage, followed by two more from which he died. Autopsy showed a gastric ulcer with malignant degeneration and metastasis to the liver and spleen. The clinical picture did not parallel the röntgen evidence of healing and even the most striking clinical improvement has to be viewed with skepticism as to the ultimate outcome.

The implication of repair is admissible, but to conclude that repair indicates that the lesion is ulcer and not cancer is a dangerous error. Infiltration at the base of the defect may occur while the cancer is spreading, and give the impression that the niche is filling up. A long history of years of suffering is characteristic of a simple ulcer, but when the free intervals disappear, when constancy replaces intermittency, the presumption should be that a benign ulcer has become cancerous. It is advantageous to classify symptoms as vague, minor and major, and be more observant of the first two groups.

The safer policy is to consider all such lesions malignant until proved otherwise. Particularly disastrous is carcinomatous metamorphosis of an ulcer in the silent area of the stomach. Added to a non-informative gastric chemistry and a euphoric personality you have a well-rounded picture of a certain malignancy.

Two cases of frank gastric cancer in this series were treated for pernicious anemia. The lingual signs and histamine refractory gastric anacidity were evident; in one loss of vibratory sensation in the lower extremities. The pernicious anemia-like hematology led to a prolonged course of treatment for Addisonian anemia. Loss of vibratory sensation and achylia gastrica are not uncommon in the aged. A picture resembling that of pernicious anemia should be viewed with caution. Conner and Birkeland have reported the coexistence of pernicious anemia and cancer of the stomach in 11 cases. In all cases of frank pernicious anemia a röntgenologic survey is an essential step.

A case of gastric cancer was diagnosed as a neurosis and treated accordingly for several months.

It Seems that Somebody is Still Constipated

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THE physiologic principles violations of which cause constipation are suppression of the defecation reflex, lack of fluid intake, too much or too little residue in the diet, undue physical or mental strain, lack of adequate exercise.

It is essential to obey the call of the defecation reflex and to that end each patient must think about it each morning after breakfast. It is equally important that he concentrate on the process and avoid distractions.

This strikingly practical statement of plain fact¹—albeit much-neglected fact—inspires me to discuss, with much aid from the same source, the still important subject of constipation.

So, onward:

In a young individual with active musculature of the colon, it is well to increase the residue in the diet, but it is detrimental to prescribe a high-residue diet for one who has an atonic bowel.

Constipation produced by spasm of any portion of the colon (tonic constipation) may be brought about reflexly by diseases within the abdomen as well as by central control. Much comfort has been afforded this group by the use of atropine. The fact that these patients become addicted to atropine is in itself sufficient proof of its failure in their cases.

In atonic constipation the musculature of the colon, the pelvic floor, the diaphragm and the abdomen are weakened. Among the causes are debilitating disease, obesity, senility, and deficient endocrine secretion.

Constipation is also ascribed to post-operative adhesions, tumors (extracolonic) and to angulation of the rectosigmoid junction or of the pelvic colon. Many of these cases produced by mechanical obstruction must be treated surgically; acute angulation of the colon by a low-residue diet plus vitamins and lubrication of the intestinal canal in some cases.

At the onset discontinue all previous programs and start anew with: correct physiologic practices the whole 24 hours; a diet meeting basal requirements and providing proper residue and vitamins. For adequate laxation the physiologic fiber minimum in a diet should be 100 mg. daily. Extensive studies made by Streicher and Quirk on the evaluation of bran as a laxative, reached the conclusion that bran administered orally aids bowel activity.

If the procedures do not correct the condition it becomes necessary to resort to medications; it

may mean that laxatives may be utilized only temporarily but chronic obstipation may commit one to habitual use of a minimum requirement. Choice of the laxative, amount used, and hour of intake are important.

We do fail entirely in a small percentage due not only to the failure of the patient to coöperate, but to the stress and strain of present-day life. Many cannot follow a strict regimen.

Cathartics may well be classified as the irritant cathartics, the bulk cathartics (saline and hydrophilic colloids) and emollients. The first-named group includes cascara sagrada, senna, rhubarb, aloe, jalap, colocynth, elaterin, podophyllum, castor oil, croton oil, phenolphthalein and mercurous chloride, which act mainly on the colon; by irritating the motor mechanism peristaltic movements are stimulated. The time required after intake varies from 4 to 24 hours.

Of the first-named group, aromatic fluid extract of cascara sagrada is most popular; it is palatable and dependable; the dose required varies from one dram to one-half an ounce and by preference should be taken every morning before breakfast. This drug may be prescribed to patients in whose cases simple methods of physiological corrections have failed. It is wise to reserve this agent for those under 60 years of age or, in general, to patients in whom you expect the motor activity of the large bowel to be well preserved. The sugar-coated tablet of 5 grains requires a longer interval for its action and uncertainty of action has been ascribed.

The saline cathartics draw fluid from the circulation into the intestinal canal until the solution of the cathartic is isotonic with body fluids. The volume of water in the colon produces a good deal of distention which stimulates bowel activity. Epsom salt is bitter and may produce nausea and vomiting. It is best administered in the morning before breakfast. This drug is too drastic for patients in the older age group, and is contraindicated in those with renal dysfunction.

Milk of magnesia is best given before breakfast. Often its efficiency may be enhanced by the administration of one-half ounce of mineral oil the night before.

The cathartic action of the colloidal and fiber group is based on supplying or increasing the volume of residue of the fecal mass. The action of bran is ascribed to its fiber content, while agar and psyllium seed have an emollient property in the intestinal canal; when moisture is added to these

1. M. H. Streicher, Chicago, in *Amer. Jl. Digestive Dis.*, Jan.

agents, a mucilaginous mass is formed. Bran and agar may be prescribed as a cereal food daily in substantial amount or combined in a recipe. Psyllium seed is most palatable in fruit juice.

In the group of emollient cathartics are liquid petrolatum (indigestible); olive oil and cottonseed oil (digestible). The white mineral oil is unabsorbable and has the property of lubricating the fecal contents; it should be administered at bedtime to avoid meal hours. Research evidence shows mineral oil may interfere with the absorption of vitamins. This preparation is particularly desirable for preventing straining at stool, and in age groups where the component musculature utilized in constipation is weakened or inactive.

It has been a long time since it was said by a great doctor: "A woman is a constipated biped; a pregnant woman a more constipated biped; a puerperal woman the most constipated biped." With the increase of fruits and green leaves in the diet, and the provision of means of defecation without freezing, or being punctured by fly and/or mosquito bites, woman has become a bit less constipated; but for the whole race the gain has been slight; for the male of the species, despite his golf, has sadly deteriorated physically—with the sole exception of the loudness of his voice, and his willingness to exercise it.

The article¹ which caused me to consider commenting is the first, so far as I can recall, since I came out of World War I, which represented constipation as a problem of any part of that long period. So far as one could gather from anybody except the detail man (even the radio has largely ceased to deal in disgusting details) had arrived at the decision that constipation was one with Ninevah and Tyre.

Like Banquo's ghost, constipation will not down.

Through my professional life certain concepts have presented themselves to me in this connection, which seemed to demand emphasis. I was told that man had piles because he stood on two feet instead of four. True, so far as I know quadrupeds do not have piles; still, I believed, and believe, that if man would not allow himself to become severely constipated, or take drastic purgatives, he could escape the plague of piles, without reverting to the quadrupedal state of locomotion.

A few persons may have their constipation and a few other ills relieved by belladonna—not many. Maybe post-operative adhesions cause symptoms relivable by the art of medicine. I would not like to swear to it.

The bran business may easily be overdone.

The main thing is: here is plain recognition of the fact that there is still need for purgatives. I could wish that more accurate classification be

done so that cascara would not be grouped with croton oil; and that some mention be made of the usefulness and the harmlessness of the warm-water enema.

It is worth while, too, to call attention to the fact that a good many cases of chronic constipation, without symptoms otherwise suggestive of gallstone disease, may be permanently cured by removal of a gallbladder full of stones.

DIVERTICULA OF THE COLON VERSUS GALLSTONES (A. Galambos & W. Mittelmann-Galambos, New York, in *Amer. Jl. Digestive Diseases*, Jan.)

A case of diverticulosis of the colon is presented with an unusual location of the diverticula. The barium-filled diverticula projected their shadows at the site of the gallbladder region, including even certain ring-shape formations of the characteristic x-ray picture of gallstones. Subsequent films, on close inspection, revealed certain changes inconsistent with gallstones, but easily explainable by diverticular sacculations.

The patient suffered from cholelithiasis, too, as evidenced by the typical history and failure to visualize the gallbladder and its contents by the routine method of cholecystography.

The gall-stone-like shadows on the first impression might have been considered due to gallstones, but these shadows proved to be barium-filled diverticular sacculations, while the gallstones responsible for the attacks, being non-opaque and invisible to x-rays, failed to be demonstrable through x-rays.

THE SYNDROME OF PREMATURE VENTRICULAR EXCITATION IN WHICH THE PR INTERVAL IS SHORT AND THE QRS COMPLEX PROLONGED

(J. M. Barker, Arlington, Va., in *Med. An. D. C.*, Jan.)

Four cases are typical of the syndrome originally described as a clinical entity—short PR interval and prolonged QRS complex. Evidence points toward the existence of an accessory conduction bundle in the production of the syndrome. It has been proposed that the syndrome be named premature ventricular excitation, since this has been shown to be the case, and is more fundamental in its description, one or the other ventricle being excited before the other.

Of the four cases, three showed ventricular complexes resembling left bundle-branch block, which means that the right ventricle is excited before the left. The converse is true regarding case 2.

The present case 1 is the only one so far published in which both quinidine and digitalis caused a reversion to normal rhythm.

When heart disease is present in these cases it is present only coincidentally, and in a few instances it is difficult to distinguish organic heart disease, especially coronary arteriosclerosis, when it is present.

REDUCTION IN DEATH-RATE FROM PNEUMONIA (Sta. Bul. Metrop. Life Ins. Co., Oct., via *Med. An. D. C.*, Jan.)

In the decade of the 1920's the mortality from pneumonia was 75 per 100,000 in the experience of the industrial policyholders of the Metropolitan Life Insurance Company (ages 1 to 74 years). For the first nine months of the current year the death rate is at the record low figure of 20 per 100,000. It should be remembered that the disease is still among the major causes of death and sickness, and that no method of immunization against it has yet been discovered.

Treatment of Heart Failure

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VERY CONFUSING is the advice offered by various specialists as to the management of our patients with heart disease, particularly as to the limitations of the usefulness of digitalis. Then, most of them would have us believe that, in order to do anything helpful for such patients, one must have the testimony of an electrocardiogram at every turn.

Gold¹ testifies to the contrary, and his conclusions are in such close agreement with my own that joint responsibility is assumed for this exposition of the subject.

In the majority of cases of heart failure there is primary impairment of the contractile power of the heart so as to reduce the systolic force and give rise to deficient drainage of the veins of the pulmonary and systemic circuit. If the predominating weakness is in the left ventricle, the symptoms and signs are those of left ventricular failure; if in the right ventricle, the symptoms and signs are those of right ventricular failure. Many patients show signs and symptoms combining the two.

Right ventricular failure is essentially a disorder of signs. There is enlargement of the liver, swelling of the legs, ascites, and distention of the veins of the neck. When the condition progresses or if it occurs fairly rapidly, pain in the region of the liver and abdominal discomfort will be added.

Left ventricular failure is essentially a disorder of symptoms. Shortness of breath is a presenting evidence in early cases. The dyspnea may progress so that it may not only appear after exertion, but may be present when the patient is at rest. A patient with left heart failure may be able to carry on a fairly hard day's work without serious discomfort but find it virtually impossible to go to bed at night because of the sense of suffocation as soon as he lies down. Such patients may show no physical signs. There may be no rales in the lungs even though there is a fairly marked increase in the pulmonary venous pressure. There may be considerable edema of the lungs without rales if the edema is in the interstitial spaces.

Congestion on the venous side of either the systemic or the pulmonary circuit is a characteristic of all the common forms of heart failure.

There are three essential elements in the treatment of heart failure: salt restriction, the mercurial diuretics, and digitalis. There are many other matters which require attention, such as diet, vitamins, sedatives, morphine; but, while these have to do with the patient's comfort and improvement

of the general physical reserve, they play a minor role in the outcome.

Every patient with heart failure should be digitalized. There are no contraindications.

In auricular fibrillation the ventricular rate slows with moderate doses of digitalis, when larger doses are given a direct action on the A-V node takes place which may cause further slowing. If, when a patient is digitalized, he complains of palpitation and breathlessness after exertion, it may be well to give larger doses of the drug in order to insure digitalization by the extravagal mechanism, for in this state the rate will remain fairly slow under these conditions.

All of the desired effects may be obtained by the use of the digitalis leaf, commonly supplied as compressed tablets of 0.1 gram (1 USP unit). The average individual requires 1.2 gram—.8 gm. to 2 gm.—within the first 24 hours to produce the full effects. The full dose may be given at one time, but 10 to 20% of patients will develop nausea or vomiting within the first hour. The usual plan is to divide the full dose into four fractions given at 6-hour intervals; if full effect before the entire amount is given the remaining doses are withheld. If not fully digitalized additional fractions are given every six hours until full signs appear. A ventricular rate of 70 is the most satisfactory guide. Minor toxic symptoms are impaired appetite, nausea, vomiting, or premature contractions. In such case the drug is withheld for a day or two.

Digitalization may be maintained by an average dose of 0.2 gram daily, 1 or 2 tablets at one time. A slow heart rate in heart failure is no bar to the use of digitalis.

Of a dose of digitalis 20% is absorbed. The same applies to digifoline; of the glycoside, cedilanid, only 10%.

Digitoxin is the glycoside of choice for oral use. Satisfactory forms of digitoxin are Digitaline Nativelle-Fougera and Purodigin-Wyeth. Digitoxin is 1000 times as potent as digitalis leaf by oral administration. The full dose is therefore 1.2 mg., average, given at one time in the patient who has not had digitalis recently. The following day 0.2 mg., this continued daily indefinitely. For a few patients 0.1 mg. suffices, a few 0.3 mg. Digitoxin has the advantage over digitalis leaf in that it is possible to induce the full effects with a single dose given at one time, in a period of 6-10 hours, in the place of the fractional dose method by which digitalis is used and which requires from 24 to 48 hours for the full effects. Local gastro-intestinal ir-

1. Harry Gold, New York, in *The Hebrew Medical Jl.*, Vol. 2, 1945.

ritation is negligible with this drug because the total dose of 1.2 mg. is too small to produce that effect. It should be recalled that the therapeutically equivalent dose of digitalis, namely 1.2 grams, will cause vomiting from local action in from 10 to 20% of the patients if given at one time.

There is little place for parenteral digitalis therapy. In extremis ouabain or crystalline strophanthin is preferable, producing full effects in 2 hours. Digifoline and cedilanid are also satisfactory for that purpose. Bear in mind that the dose is one-fifth that required by oral administration. A satisfactory practice is to give an intravenous injection of 0.3 mg. of ouabain and additional doses of 0.1 mg. at intervals of two hours, by vein, until full effects, then daily maintenance dose of digitalis or digitoxin by mouth.

Patients with heart failure in whom full digitalization is not sufficient to restore compensation require mercupurin, salyrgan-theophylline or mercurhydrin—a trial dose of 0.5 c.c. increased to 1 or 2 c.c., then one dose every day, the patient being weighed before each dose, the objective being loss of weight gradually to a point the daily dose no longer produces a loss of weight. Then the interval is prolonged to every 2, 3, 4, or more days, as indicated by weight record, to maintain the dry weight. The oral use of the organic mercurial diuretics is rarely satisfactory; the same applies to the rectal suppositories.

The danger of the use of organic mercurial diuretics is greatly exaggerated. There should be no hesitation in using these agents where a diuretic is necessary, irrespective of the state of the kidney. Some of the ill effects result from the excessive diuresis. Some patients develop no untoward symptoms when they lose even 10 pounds of edema fluid in one day; others develop weakness and cramps with an abrupt loss of as little as two to three pounds.

A large group of beneficiaries of the organic mercurial diuretics are those who have no visible or palpable signs of edema. Many cases of fairly advanced left heart failure are subject to paroxysms of cardiac asthma or pulmonary edema but between attacks show no evidence of venous congestion. The appropriate continuous use of the organic mercurials enables these patients to carry on satisfactorily without discomfort.

The older diuretics for oral administration are rarely efficacious. The average daily diet contains 10 grams of salt. Patients in heart failure are often incapable of excreting more than 2 or 3 grams a day. The most successful way of restricting salt intake to 1.5 grams a day is to limit the diet to a quart of milk a day; particularly important in the early days of acute, or in far-advanced, heart

failure. Water restriction in heart failure is not necessary, several litres of water a day with restricted salt intake will lead to loss of edema.

The most advanced case of failure will require a quart of milk a day as the sole food, water without restriction, full digitalization, and a dose of mercuhydriin. In the mildest cases, digitalis alone without any salt restriction or mercurial diuretics. Many cases of left heart failure showing only shortness of breath on effort, or orthopnea when they lie down at night, which show little improvement with digitalis, may be maintained free of symptoms by a suitable plan of mercurial diuretic therapy alone. These measures may be applied in various combinations depending on the requirements of the individual case.

An important aspect of the treatment of heart failure is the need for continuous treatment. There are some cases of heart failure which are completely cured. It is imperative to evolve a plan of treatment to establish the most efficient state of circulation and then to maintain it.

(CANCER—From P. 35)

On first examination a rectal digital examination revealed a shelf to betray metastasis.

The lessons of the essay which forms the basis of this article are so clearly presented as to stand in need of little emphasis. It is needful only that we family doctors, who see the patients first, take these statements to heart, and remembering that the symptoms came before the signs, not wait for x-ray confirmation of our serious suspicions; but, while paying due deference to the reports of these specialists, we bear it in mind that with us lies the prime responsibility, that on us rests the ultimate blame when matters go wrong—if not the praise when they go right.

STAPHYLECTOMY FOR COLDS AND SINUSITIS

(Wm. E. E. Tyson, Detroit, in *Clin. Med.*, Dec.)

To date I have performed 51 staphylectomies in cases of marked susceptibility to colds, protracted sinus infection, chronic nasopharyngitis and various remote symptoms of focal origin and seemingly ascribable to catarrhal involvement of the upper respiratory tract.

Staphylectomy has the distinct advantage of being a simple office procedure that can be practiced by the general clinician. The immediate after-effects impose no disability and the ensuing dysphagia lasts only three or four days. Temporary avoidance of hot food and beverages is the only dietary precaution. No undesirable effects have been observed.

Insulfate the uvula and adjacent surfaces with powdered benzocaine until the gag-reflex is entirely abolished. For preliminary antisepsis the throat is thoroughly sprayed with Ceapocol. The subcutaneous administration of 1 c.c. of surgical pituitrin is a reliable safeguard against hemorrhage. With alligator-jaw forceps, curved tonsil scissors and a toothed clamp with lock, amputation is done above clamp, ensuring complete removal of the uvula. Thrombin solution applied locally will check bleeding.

DEPARTMENTS

HUMAN BEHAVIOUR

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INADEQUACY

IN Virginia in a state-supported institution near Lynchburg the epileptics and the mentally subnormal are cared for as committed patients. In an institution near Petersburg the mentally subnormal Negroes are cared for. But the latter institution is wholly inadequate in size and in so many other respects that the institution will probably be relocated elsewhere and be developed entirely anew. Many of the Negro feeble-minded are patients in the Central State Hospital at Petersburg.

At the Colony near Lynchburg, the number of patients, probably 700 or 800, is always smaller than the constantly increasing catalogue of those who are knocking and waiting to be admitted. The Colony for white patients should be more than doubled in size. And that increase in capacity should be followed by a standing plan for annual or biennial enlargement of the Colony, to the end that all the feeble-minded and the epileptics whose condition makes it inadvisable for them to be in their own homes might be ministered to in the Colony. What the law speaks of as insanity is likely to be manifested in speech and in behaviour. But mental subnormality of the lesser gradations may not obviously affect the individual's conduct. Many prostitutes were doubtless once rather attractive girls. But their incapacity to compete in the economic world, and their infirm inhibition and their poor judgment eventually brought them to the streets. Not infrequently the diagnosis of mental subnormality is thought of for the first time in reference to some individual's behaviour in the court room. And in countless young men of our country inadequate mental capacity has constituted a debarment from service and often, too, a cause for discharge from military service.

The subnormal child in school cannot master the curriculum. And incapacity unrecognized in the home and by the teacher is often the basic factor in the child's unacceptable behaviour. Criminal conduct and mental subnormality must be infinitely more often associated as effect and as cause than the most experienced criminologist even surmises. The total number of the feeble-minded of all gradations must be large; fortunately relatively few of the mentally incapacitated are criminally inclined. Many of them do every day efficient work and their behaviour is not digressive.

But no Southern state that I know of deals comprehensively and adequately with the feeble-minded within its borders. The Colony at Lynchburg should be caring for 3000 patients instead of caring for a few hundred; an institution properly located and representing durability in construction and efficiency in arrangement should be provided for the Negroes of Virginia. The larger number of the Negroes live in the coastal area.

In North Carolina Dr. Parrot is doing well for the relatively few feeble-minded young people in the Caswell Training School at Kinston. But there must be many hundreds of mentally subnormal children and adults throughout North Carolina who cannot, for lack of room, be admitted to the Caswell Training School. Some of them will be admitted into the numerous jails, some into the penitentiary, and a few of them may occupy for a brief moment the state's electric chair. No people are yet altogether civilized who do not do their best for the relatively helpless members of their society. And no other condition is so thwarting and so frustrating and so vexatious to the individual as psychic unsoundness.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

COMBINED PENICILLIN AND CHEMO-THERAPY IN ACUTE GONORRHEAL URETHRITIS

IT MUST have occurred to the minds of a lot of the ordinary, garden variety of doctors that combined treatment with penicillin and a sulfa drug should be wise. From the classic shades of Eli Yale's university comes evidence¹ that such is the case.

A combination of penicillin and chemotherapy is the rational therapy for acute gonorrhea. There appears to be a synergistic action between the two drugs when used concomitantly.

A series of 105 cases of acute gonorrhreal urethritis in young white men was treated with a combination course of penicillin and sulfathiazole with 100% of cures.

In the initial attempt at combined therapy 43 patients were treated with the following schedule: an initial dose of 2.0 Gm. of sulfathiazole was repeated in 4 hours; then 1.0 Gm. every 4 hours thereafter for 5 days. On the 2nd day of chemotherapy 100,000 units of penicillin at the rate of 20,000 units every three hours was administered intramuscularly.

In every instance the smear was negative for Neis. gonorrhoeae by the end of the 3rd day and all but six had no discharge at all by the end of the

¹ R. D. Alley, New Haven, in *Yale Jl. of Biology & Med.*, Oct., 1945.

course. These six had a mucopurulent discharge which in 4 cases cleared up within a week with the use of local instillations of 0.25% protargol. The other 2 cases failed to respond to protargol and developed a nonspecific purulent discharge which cleared under a 5-day course of sulfathiazole therapy.

It was decided to attempt even more decisive cures by increasing the dose of penicillin; so a second series of 62 consecutive cases was treated with the same 5-day schedule of sulfathiazole, with 200,000 units of penicillin beginning the 2nd day, instead of 100,000 units as was given in the previous series. This resulted in 100% of cures as before, and this time only 2 patients had a mucopurulent discharge following therapy, and this cleared promptly with local protargol (0.25%) instillations in both instances.

As the virulence of *Neisseria* strains varies in different localities the authors do not suggest either of the schedules of combined therapy used in this study for general use. The principle of combined therapy, however, tends to be established by this study.

It would appear that the authors are over-modest in their claims for this combined therapy.

GENERAL PRACTICE

D. HERBERT SMITH, M.D., *Editor*, Pauline, S. C.

PHYSOSTIGMINE FOR MUSCLE SPASM IN RHEUMATOID ARTHRITIS

ANY report from a respectable source of relief of the distressing symptoms of chronic arthritis is welcomed here, and promptly passed on to our readers. Here¹ is such a report.

Within the past 10 days a friend of 25 years has told of having been treated for months by "an arthritis specialist" whose final advice was to "stop eating everything I liked to eat and stop worrying about my knee;" and then getting prompt relief from having a calcified cartilage removed at another "diagnostic center."

Bed rest alone will in many instances give a measure of relief from pain and even some relaxation of muscle spasm. This investigation took that into account.

The patient was first given a hypodermic injection of isotonic solution of sodium chloride daily for one week. Joints were measured—movement, degree of pain and contracture—before and after the period. If reasonable improvement was not noted, the patient was then given daily injections of 0.6 mg. (1/100 grain) of atropine sulfate. Atropine eliminates the unpleasant effects of physostigmine and it was our intention to use atropine with physostigmine for the relief of muscle

spasm. If the treatment relieved muscle spasm, the same treatment was continued until no more improvement was obtainable. When it was established that saline or atropine injections produced no relief, physostigmine was given—0.6 mg. each of physostigmine and atropine sulfate simultaneously. If no relaxation of muscle was obtainable with this dose, physostigmine was increased to 1.2 mg. (1/50 grain).

The dose of atropine was increased or decreased depending on the reaction. If there was unusual dryness of the throat and/or dilatation of the pupils, the dose was reduced to 0.4 mg. depending on whether or not relaxation of muscle spasm could be elicited. If there was little or no relaxation of muscle spasm, atropine was maintained at the dose of 0.6 mg., while the dose of physostigmine salicylate was increased to 1.2 mg. If the patient complained of dizziness, salivation, pain in the abdomen or nausea, the dose of physostigmine was reduced or the atropine increased, as seemed indicated.

Physostigmine salicylate has been used successfully in the relief of muscle spasm, fibrositis and bursitis. It is an inexpensive form of therapy, replacing the more expensive neostigmine methylsulfate. Physostigmine appears to give local pain reactions less frequently than neostigmine.

Physostigmine causes relaxation of muscle spasm even though it has persisted for many years. As a result, active as well as passive motion in the affected joints is more easily carried out and with less pain.

The effect of physostigmine given subcutaneously is rapid (within 3 to 15 minutes) and may persist for several days. It does not produce any severe toxic reactions.

Physostigmine has been here used in the treatment of muscle spasm in rheumatoid arthritis and allied conditions for the purpose of relieving pain due to spasm and for preventing deformities, and with gratifying results.

Write Dr. Cohen for a reprint.

QUININE-EPINEPHRINE INTRAVENOUSLY

INTRAVENOUS injection of quinine has been widely used in the treatment of the embolic or cerebral form of malaria with coma, but the safety of the procedure has been considerably debated.

It has been established that the circulatory depression accompanying such injections can be effectively antagonized by injecting epinephrine with the quinine, but data indicating the clinical reactions to such a mixture have been lacking.

Trials made by us¹ with a quinine-epinephrine mixture on 7 patients, three of whom were in coma

¹. P. J. Hanslik & C. C. Cutting, San Francisco, in *Jl. A. M. A.*, Dec. 29th.

from various drug intoxications, resulted in a fleeting circulatory stimulation, chiefly an increase in heart rate, the blood pressure being moderately, though variably and temporarily, increased in one-half of the patients. In the majority there were no other demonstrable effects, and the comas were unaffected. These results sustain the claims of proponents of such medication.

Accordingly, quinine-epinephrine intravenously is believed to be sufficiently established and safe as emergency, or initial, medication for comatose patients with embolic or cerebral malaria, in agreement with recent practices of military medical services of different countries, which claim further that such medication is indispensable in this type of malaria.

The preferred procedure is 0.5 Gm. of quinine hydrochloride or dihydrochloride (or 0.69 Gm. quinine bisulfate) and 1 mg. of epinephrine, in 250 c.c. of isotonic solution of sodium chloride, injected in not less than 30 minutes. Not more than two or three such injections (total 1 to 1.5 Gm. of quinine hydrochloride) should be given properly spaced within 24 hours. When consciousness is restored, medication is to be continued by mouth or through a nasal catheter.

Dr. Cyrus Thompson, were he now with us, would be one of the first to welcome and try out this new technique. He realized the need of effective quinine administration by means other than the mouth, and deplored the ineffectiveness of the parenteral methods of his time.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M.D., *Editor*, Charleston, S. C.

SIMPLE LOCAL TREATMENT FOR THROAT INFECTIONS

A DOCTOR friend tells me that he has just got a patient with deep throat ulceration due to Vincent's infection back to health by the use of 750,000 units of penicillin, given night and day.

If this friend had read Rosenthal's¹ report, he might have learned a less troublesome way of accomplishing the same result.

A. Of unusual value in cases of follicular tonsillitis and ulcerous Vincent's angina, is the penicillin throat lozenge is made according to the following formula:

Sodium citrate	2.0
Starch	20.0
Gelatin	40.0
Sucrose	60.0
Distilled water	140.0
Penicillin, calcium	20.0 (100,000 units)
Oil of peppermint	6 min.

¹. H. H. Rosenthal, Lt. Comdr., in *U. S. Naval Med. Bul.*, July, 1945.

The solids and distilled water are boiled together for three minutes under constant stirring. The mixture is cooled to 80° F., penicillin added while stirring constantly. The mixture is then poured into a small waxed container, covered and kept in refrigerator. The gel is readily divisible into 40 pleasant-tasting cubes, enough for a 2-day treatment.

One of these lozenges is administered hourly dissolved on the tongue in 15 minutes, during which time the lesions constantly are bathed in a buffered solution of penicillin (2,500 units). The following events occur in sequence: 1) dramatic relief of pain on swallowing within 4 hours, 2) reduction of tonsillar edema and necrotic tissue by as much as 25 to 50% within 12 hours, and 3) disappearance of toxic features and fever within 24 to 36 hours.

In addition, diluted peroxide gargles are administered three times daily to wash away necrotic material and for possible effect on saprophytes.

For ordinary sore throats a different medication for local use is offered and highly endorsed.

B. A chewing wafer of sulfonamide mixture which has given excellent results in cases of severe pharyngitis and mild forms of tonsillitis has the following composition:

Sulfanilamide	2.0
Sodium bicarbonate	2.0
Sulfathiazole	4.0
Paraffin wax	16.0
Oil of peppermint	10 min.

The solids are made into a fine powder, and under constant stirring are added to the melted wax and peppermint poured into a mold and divided into 20 tablets.

One tablet is administered every two hours, the patient chewing the substance as he would gum. There is almost immediate soothing effect on the inflamed mucosa. Resolution of the inflammatory process usually occurs within two or three days.

RECOVERY FROM CAVERNOUS SINUS THROMBOSIS AND STAPHYLOCOCCIC PNEUMONIA BY COMBINED USE OF PENICILLIN, SULFADIAZINE AND ANTISTAPHYLOCOCCUS SERUM

THE PATIENT, aged 23, played football on the evening of August 29th, 1944; was well up to that time. He reported for duty the following morning but felt so ill he was returned to barracks. He was chilling, feverish, greatly exhausted and had severe pain over the back near the base of the right lung. During the night a barracks companion placed hot towels over the area of thoracic pain. He dressed the next morning and stood in line for more than an hour awaiting his paycheck. He was

¹. Lt. Col. T. P. Sears & Capt. F. L. Wilson, M.C., A.U.S., in *Rocky Mtn. Med. J.*, Nov.

removed by ambulance to a hospital ward, became delirious at once, destroyed an oxygen tent, attempted to escape through a window.

The x-ray plates showed bilateral pneumonia with small densities distributed throughout almost all pulmonary lobes. Dyspnea was extreme, r. 40 to 60; t. 105.4, p. only 100, w.b.c. averaged 16,000 with 85% neutrophiles. Urine repeatedly displayed 4-plus albuminuria with granular casts and pus cells! blood total NPN of 50 mg. % with 2.1 mg. of creatinin and 505 mg. of chlorides. Blood cultures on the 5th day of incubation grew a non-hemolytic staphylococcus albus.

At the time of admission no abnormalities were seen about the face or upper respiratory tract; on the 5th day the right upper eye-lid became greatly swollen and a small amount of pus appeared in the conjunctival sac. The swelling increased to complete closure of the eye. There then appeared an area of lividity redness and edema over the right malar region. In 24 hours a petechial eruption appeared over the left pectoral and deltoid regions and small hemorrhages were seen under the right bulbar conjunctiva. The right pupillary reflex was next abolished and the right 3d cranial nerve paralyzed. This was followed by ophthalmoplegia complete by the 5th and 7th day.

For 30 days this was the clinical picture: bilateral staphylococcal pneumonia and bacteremia with cavernous sinus thrombosis, with facial cellulitis and a petechial eruption, a nephritic reaction and a toxic psychosis. Consciousness varied between deep coma and wild delirium. A hypochromic anemia early developed. Toward the end of the illness alarming tachycardia, cardiac arrhythmia, and evidences of peripheral vascular failure appeared.

On admission the patient was placed in an oxygen tent, an initial dose of 4 grams of sulfadiazine given, then 2 gm. doses q. 4 h. day and night; condition grew worse by the hour. After 72 hours the sulfadiazine was stopped and penicillin started intramuscularly in 50,000 units q. 3 h. for eight doses daily. It was apparent that the sulfadiazine and the intramuscular penicillin were inadequate and a change was made to supply 300,000 units of penicillin every 24 hours by continuous intravenous drip, alternately in either 300 c.c. of 5% glucose and distilled water, or in saline solution. A lumbar puncture was done and 100,000 units of penicillin injected into the canal. By the 12th day the blood stream was apparently sterile but all other features of the illness were uncontrolled. Ophthalmoplegia was complete, fever near 105, pneumonia extensive and with pleural fluid; acute anemia had developed and whole blood transfusion was given.

At this time the staphylococcus recovered from the patient's blood was cultured; the staph. was not completely inhibited by the penicillin. The pa-

tient staph. was agglutinated against type A antistaphy. rabbit serum of Julianelle. Strong agglutination occurred in a one to 80,000 dilution. Accordingly this antiserum was added to the treatment, giving 20 c.c. intramuscularly every eight hours and increasing the continuous intravenous drip of penicillin to 400,000 units daily. Any effort to reduce the dosage of penicillin or to substitute intramuscular injections for intravenous drip was reflected at once in an increase of fever and symptoms.

The patient was meantime becoming exhausted. At the end of the 5th week, the heart began to increase in rate and signs of peripheral failure were evident. For 30 days the intravenous drip had never been interrupted for a single hour and this could be continued longer only by the surgical emplacement of a trochar in a deeper vein. It was evident that invasive power of the infection was about evenly balanced by the treatment and that further help was quickly needed; 2 grams of oral sulfadiazine were added q. 4 h. to the penicillin already being given. The patient's t. dropped from 105° to 99° within 24 hours. The combined medication was continued for 14 days after this time as an assurance against the reactivation of septic foci.

The patient made rapid physical and mental improvement and on the 45th day after onset began to show movements of the eyeball. These improvements advanced to complete restoration of the 3rd, 4th and 6th cranial nerves. There was no loss of visual acuity. For a brief period there was severe pain in the areas of distribution of ophthalmic and maxillary divisions of the 5th nerve.

During a period of six weeks this patient received 13,200,000 units of penicillin and much of this in a continuous drip that provided 400,000 units daily for 25 consecutive days. He received 150 gm. of sulfadiazine, 2520 c.c. type A antistaphylococcus rabbit serum (Julianelle), two blood transfusions, continuous oxygen administration for 33 days, nasal-tube feedings of high caloric and vitamin content. A very high albuminuria was combated with intravenous injections of liquid blood plasma.

Review of the case may suggest a suspicion that this patient was overtreated. And yet, coincident with close bedside observations, accurate laboratory guidance, and repeated efforts to reduce medications, it was found that any less active attack was soon evidenced in an advance of the morbidity.

The conclusion is that a combination of penicillin, sulfadiazine, and type A antistaphylococcus rabbit serum resulted in the cure of a disease which, by the single use of any of these three entities, would have proved fatal. The authors are

also convinced that where a patient's need for penicillin is very great, the method of choice is the uninterrupted and continuous intravenous drip.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

CANCER AND THE GENERAL PRACTITIONER: THE OFFICE DIAGNOSIS OF EARLY CANCER

AN INTELLIGENT appeal is made¹ to the general practitioner to take his great part in the early diagnosis of cancer by a special committee of a State medical society. This is an intelligent appeal because it does more than place the responsibility for such early diagnosis on the G. P. and then, in the next breath, say all the G. P. is capable of doing is to think of the possibility of cancer and immediately start the patient on his round of surgeon, röntgenologist, pathologist et al.

The substance of this excellent report follows:

No diagnosis of cancer should be conclusively made without a pathological report. Many diagnoses cannot be made without the help of röntgenological or other laboratory studies. However, the general practitioner, in his own office, with the help of the instruments he uses every day, may detect many suspicious lesions and start the patient toward a final diagnosis.

What You Can See:

1. With the help of a pocket flashlight, a tongue depressor and a finger cot, the physician can detect early precancerous or malignant changes of the roof or floor of the mouth, of the tongue, cheek or tonsil.

2. A vaginal speculum and a good light will disclose lesions of the cervix and vagina.

3. A proctoscope will reveal a high percentage of early malignant lesions of the rectum.

4. Careful observation, with a comparison of the two breasts, will reveal the elevated or retracted nipple, or the dimpling of the skin which are so frequently shown by malignant tumors. Any discharge from the nipple—clear, serosanguineous, or bloody—is a signal for further study. The elevation or distortion of the breast contour is a symptom which should not be ignored.

5. Thickened or scaly skin may suggest cancer as strongly as the persistent ulcerating sore.

What You Can Hear:

1. Persistent hoarseness should cause you to suspect cancer of the larynx.

2. Unexplained cough might mean cancer of the lung.

What You Can Feel:

1. Careful, systematic palpation of the breast will reveal many early lesions. Most lumps in the breast are not cancer, but since many of them are, all lumps should be investigated. The painless lump is the dangerous lump.

2. A high percentage of the early rectal cancers are within reach of the palpatting finger. The routine use of the gloved finger will change many diagnoses from hemorrhoids to cancer and give the patient a reasonable hope of prolongation of life.

3. In the male, the rectal examination should include an examination of the prostate. A hardened, nodular prostate should be viewed with suspicion.

4. Bimanual vaginal examination will give the clue to lesions of the cervix, of the fundus, ovary and tube.

5. Enlarged lymph nodes — axillary, cervical, supraclavicular, or inguinal—are readily palpated and are significant. They may be evidence of metastatic cancer, or of primary malignant disease of the lymphoid system.

6. Malignant growths within the abdomen or pelvis can frequently be detected by deep palpation.

No doctor should forget the importance of biopsy, or that the correct choice of site for biopsy, the adequacy of the specimen and its freedom from mechanical distortion are factors which are essential to a correct pathological diagnosis. The skilled röntgenologist should be consulted in many cases presenting unexplained symptoms.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

SICKLE-CELL ANEMIA, "A GREAT MASQUERADE"

IT SEEMS that sickle-cell anemia is far commoner a condition than is generally thought. An article¹ pertinent to this point is abstracted.

Like syphilis, sickle-cell anemia may present many clinical syndromes. Some of these are easily recognizable, while others may imitate rheumatic fever, tuberculosis, Hodgkin's disease and acute surgical diseases of the abdomen (to mention only a few) to an extent that the differential diagnosis is learned only after proper hematologic study.

A sphygmomanometer cuff is wrapped around the brachium and inflated to a pressure between systolic and diastolic and allowed to remain in place for six minutes. Ten c.c. of venous blood is withdrawn (dark blue blood indicates adequate stasis) and placed in a 10 c.c. vial containing oxalate or citrate crystals. A Wintrobe sedimentation

1. From Report of Comm. on Cancer Control of the Ark. Med. Soc., in *Jl. Ark. Med. Soc.*, Dec.

rate tube is immediately filled, care being taken to prevent excessive loss of carbon dioxide, and the sedimentation rate determined; 3 c.c. of the remaining blood is then transferred to a 50 c.c. Ehrlemeyer flask, which is rotated periodically at two-minute intervals for 15 minutes to facilitate the escape of carbon dioxide. A rate of sedimentation is then measured for the aerated sample. The diagnostic parameter is indicative of sickle-cell anemia when the difference between the sedimentation rates (uncorrected) of aerated and reduced blood is greater than 20 mm. per hour. If the diagnostic parameter is between 0 and 20 mm. per hour the chances are more than 10,000 to one that the patient does not have sickle-cell anemia. If greater than 20 mm. per hour the chances are 98 in 100 that the patient has sickle-cell anemia.

Since sickle-cell anemia is a great masquerader, a search for this disease should be made routinely in all Negro patients in a manner similar to that in which routine serologic examinations for syphilis are made. Since the institution of the routine use of the diagnostic parameter in a medical service at Charity Hospital, 27 cases of active sickle-cell anemia have been discovered among 612 consecutive Negro patients tested. This has resulted in an early, though often unexpected, correct diagnosis in many patients who may have been erroneously managed in a rapidly moving hospital medical service.

The change in hematocrit reading following the treatment of sickle-cell anemic blood with carbon dioxide is of diagnostic value. In no instance did the diagnostic parameter give a false response. This is particularly important in view of the fact that it is a rapid procedure and therefore of great value in the management of acute medical and surgical problems among Negro patients.

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

DELIVERY OF THE AFTERCOMING HEAD

WHEN the breech is presenting, and especially if this condition has not been diagnosed, there is great danger to the child unless the physician can deliver the head quickly after the body is out. Fist¹ calls attention to this fact and offers a means of meeting the emergency.

Delay in delivery of the aftercoming head is due to extension. If the head flexes so that the shorter suboccipitobregmatic diameter presents, delivery proceeds without difficulty. Numerous maneuvers for this purpose have been attempted, but none has been wholly effective. Results may be accomplished by the use of the Piper forceps, but forceps are not

always at hand and sterilized. When no forceps are available, flexion is just as easily obtained by the use of a simple maneuver which was described by the author in 1932. Every student should learn it.

With the body of the child astride the operator's arm, the suboccipital region lies just below the solid, fixed pubic joint of the mother. When the operator elevates the fetal shoulders by raising the supporting hand, the pressure of the pubes on the suboccipital region flexes the head so that the shorter suboccipitobregmatic diameter presents, rotation takes place and delivery easily follows as the body is brought up over the mother's abdomen.

The lives of breech babies may thus be saved when special instruments are not available and expert assistance not at hand. It is therefore more essential than the intern know this simple life-saving procedure than to be able to apply forceps, perform version or open the abdomen.

NEW ANTIDOTE FOR POISONOUS SPIDER BITE

(J. E. Bell, Jr., M.D., and J. A. Boone, M.D., Charleston, S. C., in *Jl. A. M. A.*, Dec. 8th)

Two South Carolina doctors report spectacular success in the treatment of a Black Widow spider bite with neostigmine.

Within one hour there was complete relief of muscle spasm and pain.

The patient, upon receiving the bite, feels a sharp, stinging sensation which is very painful but lasts only a moment. Fifteen to 45 minutes later pain begins to radiate from the region of the bite. The pain is most severe in the abdomen and legs but also spreads generally to the back, shoulders and arms.

Previously, neostigmine has been used in a wide variety of diseases in which muscular paralysis, spasms, tension or spasticity and cramps were important symptoms.

PENICILLIN IN THIOURACIL-INDUCED AGRANULOCYTOSIS

(H. H. Rothendler & M. G. Vorhaus, New York, in *Jl. A. M. A.*, Nov. 10th)

A woman, 52, presenting a classic picture of hyperthyroidism, with enlargement of both lower lobes of the thyroid gland and symptoms of five months' duration, was started on a daily dose of 0.6 Gm. of thiouracil. Twelve days later her b.m.r. had fallen from plus 85 to plus 18; her b.p. had dropped from 170/80 to 140/80, she felt less tired and nervous and she had gained six pounds. Her w.b.c. count at that time was 7,750, with normal differential. Medication was continued unchanged for five days when her neutrophils were 45, total white count of 4,000. Thiouracil was stopped immediately; 36 hours later she presented a typical picture of agranulocytosis, with a t. of 104, white count of 2,400, with two band cells and two segmented neutrophils (sternal puncture). On admission to the hospital, penicillin, 20,000 units, was administered q. 3 h. A transfusion of 500 c.c. of whole blood and daily injections of 2 c.c. of crude liver were given. Twelve hours later the t. had dropped to 100, and the blood smear showed eight segmented neutrophils and 12 bands cells; 36 hours after the institution of penicillin therapy the w.b.c. had risen to 5,300, with 33 segmented neutrophils and 20 band cells; on the third day, 7,500 w.b.c., with 49 segmented and seven band cells. The t. reached normal on the fourth day, and penicillin was discontinued at that time, after the total administration of 560,000 units.

¹ II. S. Fist, Los Angeles, in *Medical Record*, Nov.

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FEE SPLITTING OUTLAWED AND "DOCTOR" MEANS SOMETHING IN WISCONSIN

ONE may learn from the *Wisconsin Medical Journal's* issue for January that, by statute enacted in 1913, and strengthened in 1915, fee-splitting by physicians is prohibited, even between physicians taking part in the same operation. *Each physician must render his bill direct to the patient.* The attorney general has ruled that no part of the fee received by the surgeon or hospital can be paid legally to the physician advising the operation or treatment.

This journal has many times stated its disbelief that fee-splitting among doctors of this section of the country is at all a common practice, whatever may be the case in other sections.

However, there is evidence of enough of this indefensible, dishonest practice to make us entirely willing to see our State legislatures make fee-splitting in any guise, and however indirectly, a crime punishable by heavy fine, and in case of a second conviction, revocation of license.

And the same issue of the same journal tells us of the enlightened attitude of the people of Wisconsin as to the use of the title "Doctor."

No person not possessing a license to practice medicine and surgery, osteopathy, or osteopathy and surgery shall use or assume the title "doctor" or append to his name the words or letters "Doctor," "Dr.," "specialist," "M.D.," "D.O.," or any other title, letters or designations which represents, or may tend to represent, him as a doctor in any branch of treating the sick.

It is to be noted here that osteopaths in Wisconsin are required to take the basic sciences examination, just as are the regular physicians; so one may rest assured they do not constitute a problem in that State.

The legislature has dealt with optometry as a skilled calling, not as a profession involving a relation of special confidence between practitioner and patient. Optometrists, while not engaged in the practice of medicine, are engaged in treating the sick, as they themselves conceded in asking to be excluded from the requirements of the basic science law: "the use of the title would effectively misrepresent their qualifications for they are but skilled tradesmen."

Chiropodists are entitled to use the designation "R. C.," but they are not doctors, and they are forbidden to so represent themselves.

The Supreme Court of Wisconsin has upheld numerous opinions of the attorney general ruling that the Wisconsin law forbids the use of the title "doctor" by chiropactors. In a recent opinion the court held as to such use:

The title does not aid him [the chiropractor] in the treatment; it merely aids him in securing the confidence of prospective patients and in inducing people to apply for treatment.

One licensed only as a chiropractor in Wisconsin, who uses electrotherapy in the course of treatment violates the Medical Practice Act. Nor can chiropractors administer medicine or drugs, nor use any therapeutic methods other than adjustment of the spinal column by hand.

In the latter days of Dr. Isaac W. Faison, in a meeting of his church, Dr. I. W. said that there should be a doctor included in the membership of a certain committee. Some member replied that such was the case, and called the name of Dr. So-and-so, a chiropractor. Those who knew the old gentleman and scholar can well imagine with what force he answered: "No matter what the Legislature of North Carolina may say, a chiropractor is no doctor."

What a pity there were not more like him.

Would there be a chance today of restricting the usage of this ancient and honorable title. If not, it will eventually mean as little as a "Colonel" in Kentucky. We can, at the least, keep up a semblance of resistance while waiting and hoping for a more enlightened day.

THE PRESIDENT DISCLOSES HIMSELF

AN ECONOMIST of proved intelligence¹ has made an analysis of President Truman's speech as given to the nation October 30th.

The President warned "Labor" that it "has a strong responsibility to see that demands for wage increases are reasonable. Excessive demands would deny to industry reasonable profits to which it is entitled, and which are necessary to stimulate an expansion of production." He went on: "'Labor' itself has the responsibility to aid industry in reaching this goal of higher production and more jobs. It must strive constantly for greater efficiency and greater productivity—good work done for good wages earned." Labor must constantly find ways within its own ranks of cutting down on absenteeism, producing turnover, avoiding jurisdictional disputes and wildcat strikes."

To go on, in some verbatim paragraphs even, without using quotation marks:

If "Labor" heeds this advice, production will increase to such an extent that wage rates materially higher than those now prevailing can be paid, this should come to pass, competition will force an advance in wage rates, and "Labor" will find itself enjoying higher wages than it has ever known.

One of the peculiarities of the President's message to the public is that there is a wide gulf between the logical conclusions stated and the prem-

ises upon which these conclusions are based. These premises contain such a collection of current economic fallacies that one can scarcely escape the conclusion that they have been foisted upon the President by irresponsible expositors of absurd vagaries which he accepted as sound economic principles. In the first part of his address appear at least five such fallacies.

1. The assumption that higher wage rates give to the laboring class higher total earnings and, therefore, greater ability to buy is almost the exact reverse of the truth. At any time when unemployment appears, an increase in wage rates throws more persons out of work and lessens the aggregate take-home pay of the employees in industry. The ability of the working class to buy is diminished.

2. The assumption that the total spending power of the nation is increased by payments to those not at work. The money to pay doles is taken from the taxpayers, so the total buying power of the community is no larger than it was before the transfer took place. Furthermore, experience everywhere shows that the payment of unemployment insurance always makes more unemployment. When men can obtain pay for not working, commonly they hold out for higher pay than their services are worth; national production and national income are diminished, the total spending power shrinks and more unemployment results.

3. The statement that workers can be expected to get as much pay for working 40 as for working 48 hours. A man who works 40 hours will produce [unless he deliberately steals from his employer] only five-sixths as much as the man who works 48 hours. The employer's ability to pay depends upon production. If any group of employees prefers to work fewer hours and draw proportionately less pay, that certainly is their privilege. For any group to reduce the working time of its members and their output without having a corresponding reduction in the contents of their pay envelopes is as absurd as to say that a week has ten days.

4. The President assumes that workers transferring from wartime to peacetime industries should suffer no loss of pay when they make the change. It is, however, a matter of common knowledge that during the war emergency it was necessary, in order to obtain sufficient help in the war plants, to pay the workers exorbitant wages. Without such unusual compensation, it was impossible to induce the necessary number of persons to move to out-of-the-way places and suffer many inconveniences. These persons were told that employment and pay were both temporary and that they should save up for the days when their jobs would disappear.

5. The President implies that prices can be kept from advancing if government agencies like the OPA are given sufficient authority and funds. This assumption is contrary to the experience of all nations over hundreds of years. As long as governments indulge in deficit financing and use newly created currency to pay their bills, prices will advance. If the President wishes to stop inflation he should use all his influence to do away with government controls of what used to be free enterprise, and devote his energies to balancing the budget, and especially to eliminating at once the dangerous and destructive procedure of borrowing from the banks to meet government expenditures.

On the whole, the President's address on wage policy is not so unreasonable in tone and content as thoughtful persons feared it would be. If the President is wise, he will hasten to rid his staff of the group of scatterbrained theorists whose pseudo-economic reasoning runs so counter to the President's basic common-sense.

A CLINICAL STUDY OF TETANUS: AN ANALYSIS OF 121 CASES

A RECENT LOSS of a case of tetanus led Gessler¹ to this study of the disease. The records of 121 cases of tetanus in the last 12 years were obtained from four hospitals of Nashville.

The average incubation period of those cases which were recovered from was 16.44, 10.24 days in those proving fatal.

Most of us will be astonished to learn that more of the patients in this series got tetanus after an attempt to prevent it, than did those whose wounds were unmolested and no prophylactic injection given. One might attempt to explain this statement by saying that the wound which gets tetanus is a different kind of wound from the one which does not. Puncture wounds are said to be more susceptible to infection with *Clostridium tetani*, yet surface wounds in this series were more often the site of infection than puncture wounds.

In five cases indolent ulcer was apparently the focus of infection.

There was one death from anaphylaxis immediately following injection of antitoxin by vein.

The figures indicate that intravenous or intramuscular injection of tetanus antitoxin is preferable to other routes of injection: 25,000 units is adequate for the average case. Intrathecal injection of antitoxin is more hazardous than effective. Local injection of antitoxin about the site of infection, from this study, is of no value.

Immediate debridement and local injection at the site of infection are not of primary importance. If there is a foreign body or deep abscess at the site of infection exteriorizing of the wound is to be done in the interest of good surgery.

1. C. N. Gessler, Nashville, in *Jl. Tenn. Med. Assn.*, Nov.

The use of tetanus toxoid for the production of active immunization may be begun a few days after the initial injection of a surplus of tetanus antitoxin, and the level of antibodies from active immunization will be built up in time to maintain a surplus before the injected antitoxin is depleted.

The patient must have adequate sedation from the beginning, as spasms, cyanosis and dyspnea may cause sudden death. The use of sodium amytal and/or avertin in dosages according to the severity of the spasms is satisfactory in most cases.

One hundred and twenty-one cases of tetanus are reviewed. The mortality rate was 53.7 per cent.

Few of us, most likely, have seen a death from tetanus. Most of us have implicit faith in the preventive power of tetanus antitoxin when given soon after the injury. The teaching from this report is that tetanus toxin should be given as faithfully as diphtheria toxin, and active immunization kept up, certainly for all those especially exposed to trauma.

It will be of great interest to learn the experience in the late war in these regards.

INFECTIOUS MONONUCLOSIS

ALTHOUGH infectious mononucleosis is a common disease it is often overlooked, probably because of its varied clinical picture. Many epidemics have been reported, most of them occurring in the spring and fall. Sporadic cases are seen throughout the year. Paul¹ has taken cognizance of these facts and called attention to the need for being on the outlook for the disease.

The cause of the disease is still unknown.

Symptoms: Headache, fever, sorethroat, tender glands, constipation, chills, malaise.

Physical Findings: Fever, enlarged glands—posterior-cervical, submaxillary, subangular, axillary, epitrochlear, inguinal, femoral, submental; tender glands, throat infected, membranous angina, enlarged spleen, puffiness of eyelids, abdominal tenderness, enlarged liver.

The onset is similar to that of many other diseases. After a few days the blood smear shows the abnormal mononuclear cells, or the Paul-Bunnell test becomes positive. When the disease is ushered in with a septic type of temperature it must be differentiated from septicemia, typhoid fever, brucellosis, atypical primary pneumonia, acute rheumatic fever, miliary tuberculosis, dengue, anterior poliomyelitis and encephalitis. When the fever is associated with sore throat, one must suspect diphtheria, Vincent's angina, follicular tonsillitis, or scarlet fever. If the fever is mild, mumps or German measles must be considered. The difficulty of differentiating infectious mononucleosis from appendicitis is real.

1. W. D. Paul, Iowa City, in *Jl. Indiana Med. Assn.*, Nov.

The enlarged lymph nodes makes one consider the leukemias, Hodgkin's disease, tuberculosis, syphilis, and granuloma inguinale. The presence of jaundice, particularly during epidemics, makes the differentiation from acute infectious hepatitis difficult. Here one must rely on a positive Paul-Bunnell test, the differential blood count the normal blood proteins, and normal liver-function tests. Disseminated lupus erythematosus may also be confused with this disease, but the laboratory data and absence of lupus-like lesions on the face and finger-tips make the diagnosis definite.

The treatment of this condition is symptomatic. Although the contagiousness is questionable, it is best to isolate the patient. The sulfonamide drugs and penicillin have little effect.

NORMAL BLOOD PRESSURE

A REVIEW of some pertinent points as to blood pressure is brief from *Roche Review*, Vol. 10.

Best and Taylor state that the normal ratio of systolic to diastolic pressures is 3:2. Their average figures in the young male adult are 120/80. They report that Robinson and Brucer, in studying a group of 1100 individuals, found the following range to be 90 to 120/60 to 80.

According to Goldring and Chasis, in children from 3-16 years old, the s. pressure rises progressively from 90 to 115, the d. from 65 to 75. The upper normal limit in the 40-year-old group is 140/90; upper normal 150/90 in individuals over 40 years of age.

Page and Corcoran state that some believe 90 to 120/60 to 80 is the normal range for men and women, while others set the range at 110 to 140 s. and 70 to 90 d. Investigators are not in agreement as to whether the arterial pressure normally rises with increasing age. The majority finds that the systolic, mean, and pulse pressures rise gradually from 40 to 62 years, rapidly from 62 to 85. Diastolic pressure does not seem to vary significantly with age.

Many consider s. pressure to be less important than d. since (a) it is less reliable because it is subject to wider variations under normal conditions, i.e., good health; (b) d. pressure represents the constant load carried by the vascular walls; and (c) d. pressure reflects the state of the peripheral vessels more accurately than does the systolic, since the latter does not respond so readily to peripheral resistance variations.

Factors listed by Page and Corcoran as influencing arterial pressure even in normal persons include:

- Posture—on assumption of erect posture, systolic falls 5 to 40 mm. after about 10 seconds, but rises again in 30 seconds. Diastolic pressure usually rises slightly on standing.

- Sleep—there is usually a fall in both systolic and diastolic pressure during sleep, although bad dreams and restless sleep may cause a slight rise.

- Diurnal variations—b. p. rises during the day, reaching a maximum (15-20 mm.) at 6:00 or 7:00 p. m.

- Emotion — whether expressed or repressed, emotion causes a rise in b. p.

- Muscular effort—may increase systolic pressure as much as 60 mm.; d. pressure decreases with moderate exercise, increases with strenuous exercise.

- Meals—eating is usually followed by a rise of s. 10, d. 5 mm.

- Pressure varies significantly with the arm, and should therefore be measured in both arms.

- Pregnancy—causes decrease during fourth to ninth lunar month, increase during tenth month. Menstruation does not seem to affect b. p.

- Constipation—seems to have no effect.

- Alcohol—may cause some fall in blood pressure because of vasodilation; there may be a distinct fall during intoxication.

- Tobacco — increases pressure (temporarily) in some persons, decreases it in others.

- Obesity—almost always associated with some increase in blood pressure, partly because of inaccurate readings caused by the increased pressure required to compress the larger mass of tissue in an obese arm; accurate measurement by the intra-arterial method, however, also shows a slight increase.

- Body build—viscerototic persons and those with asthenic build usually have lower b. p. than the sthenic type.

- Climate and temperature — no correlation with blood pressure has been established, but pressure tends to fall in warm weather.

- Environment — pressure may vary significantly when taken at the patient's home and in the clinic or office; it is usually lower at home.

Goldring and Chasis also list the following factors which make it difficult to differentiate between normal and abnormal.

- There may be a variation of as much as 10 mm. in the s. and d. pressures in a series of 5 heart beats.

- Different observers report different pressures.

- The conditions under which the readings are taken may vary and the variations affect the readings.

- Different methods of measurement and the different criteria used do not yield the same results.

- Dynamic variables (such as systolic discharge, heart rate, peripheral resistance, etc.) which combine to produce the b. p. level, cannot always be controlled.

The blood pressure equipment (mercurial or aneroid) should be kept in good repair and calibrated at yearly intervals or more frequently if necessary to insure accuracy.

The patient should be seated comfortably, the arms should be slightly flexed, and the entire forearm should be supported on a smooth surface at the level of the heart. If the readings are taken with the patient in any other position, this should be recorded. Clothes or other objects should not be allowed to constrict the arm and the patient should be given an opportunity to recover from recent excitement or exercise.

A cuff containing a rubber bag 12 to 13 cm. in width, completely deflated, should be applied snugly and evenly around the arm with the lower edge 1 inch above the antecubital space, in such a manner that inflation causes neither bulging nor displacement.

Palpation should always be used as a means of checking on auscultatory readings. If the radial pulse is felt at a higher level than that at which the auscultatory sound is heard, the palpitory reading should be accepted as the pressure; otherwise the auscultatory reading should be accepted.

The stethoscope should be placed with a minimum of pressure in such a way that it is not in contact with the cuff but is directly over the previously palpated brachial artery in the antecubital space. There should be no opening between the stethoscope lip and the patient's skin. The hand may be placed with the palm either upwards or downwards according to the position in which the clearest brachial pulse sounds are elicited.

The level at which sounds *either* suddenly become dull and muffled or completely disappear is recorded as the diastolic pressure.

MOLD ON BOOKS.—Is dampness causing mold to form on the binding of your books? If it is, apply this solution: thymol crystals, 10 gm.; mercury bichloride, 4 gm.; ether, 200 c.c.; benzene, 400 c.c. Warn your assistant that the preparation is poisonous and inflammable, and suggest that she apply it outdoors with cotton tied to an applicator or held in a pair of forceps.—*Med. Economics.*

A STUDY TO DETERMINE THE ANTBACTERIAL EFFICIENCY OF COMBINED TYROTHRICIN AND SULFAZADINE

(R. Kelsa, Washington, & B. Thompson, Arlington, Va., in *Med. Ann. D. C.*, Jan.)

It would appear from our observations that at least in vitro a combination of tyrothricin and sodium sulfadiadine is more efficacious as an antibacterial agent than either of these agents used alone when used against organisms frequently found in the upper respiratory tract, and these observations tend to confirm clinical findings.

Don't censure a man for flirting with a waitress. He may be playing for big steaks.

When it comes to charges, some dentists make mountains out of molars.

NEWS

SOUTHEASTERN ALLERGY ASSOCIATION

On November 1st, 1945, a group of doctors met in Charleston, S. C., for the purpose of organizing an allergy association in the Southeast. This regional association would include all those doctors in Virginia, North and South Carolina, Georgia, Florida, Tennessee and Alabama who have a special interest in allergy.

It was decided to hold the first meeting in Atlanta, at the Atlanta-Biltmore Hotel, beginning at 10 a. m. Saturday, March 30th, with Dr. Hal McC. Davison presiding.

Luncheon at noon, then the following program:
Contact Allergy, by Dr. Oscar Swineford; Headaches, by Dr. William Crowe; Preparation of Extracts, by Dr. Edna Pennington.

The Atlanta men are tendering a banquet for the evening.

The Sunday session, to begin at 10 a. m.:

The Relationship Between Immediate and Delayed Skin Reactions, by Dr. John Jacobs; Allergy in Childhood, by Dr. Susan Dees; Allergic Rhinitis, by Dr. Randolph Graham.

Each paper will have two discussants and then will be thrown open to all.

This meeting is open to every doctor interested in allergy. It is desired that there will be a large attendance. Naturally everyone cannot be on the mailing list the first time, but if you will notify the secretary of all those who might be interested, they will be added gladly to the mailing list.

In order that there may be some idea of the number planning to attend this meeting, you are asked to detach the slip at the bottom and mail it to the secretary, Dr. Katharine Bayliss MacInnis, 1515 Bull St., Columbia, S. C.

Make your hotel reservations direct with the Atlanta-Biltmore Hotel, Atlanta, Ga., and be certain to mention the Southeastern Allergy Association.

I am (am not) making my plans to attend the first Southeastern Allergy Association meeting in Atlanta, Ga., on March 30th and 31st, 1946.

Name Date
Address

MEDICAL COLLEGE OF THE STATE OF SOUTH CAROLINA

Navy V-12 medical students on active military status were inactivated and placed on reserve status at the end of the college semester. No official word has been received in regard to army contracts. The navy has 43 upper classmen in the V-12 program and 15 freshmen, while under the army program there are 68 upper classmen and 14 freshmen. Thirty-five civilians are among the upper classmen and 31 are in the freshman class.

Dr. William M. McCord was recently elected Professor of Chemistry to fill the vacancy created by the death of Dr. Francis L. Parker. Dr. McCord has just been released from active military service in which he held a commission as a major in the Medical Corps of the Army. Dr. McCord received his Ph.D. degree in organic chemistry from Yale in 1931 and his degree in medicine at Louisiana State University Medical School in 1939. He was on the staff at LSU, holding the position of Associate Professor of Biochemistry since 1931.

The Southern Surgical Association heard, on the 6th of December, Dr. William H. Prioleau describe a new technique of sewing up cavities caused by abscesses of the lung, by using muscle in the chest wall and lungs and covering them with skin.

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VI-PENTA DROPS

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DR. ROBERT S. CATHCART was born on September 25th, 1871. After attending schools in Columbia, the place of his birth, he was graduated from the School of Pharmacy in 1890 and the School of Medicine in 1893 of the Medical College of the State of South Carolina. After 14 years of general practice, he devoted his time exclusively to surgery. He became one of South Carolina's leading surgeons and for years was surgeon-in-chief at Roper Hospital and head of the department of surgery of the Medical College and surgeon for the Citadel. During World War I he was medical adviser to the Governor of South Carolina. He numbers among the societies of which he is a member, the American College of Surgeons, the Southern Medical Association and the American Society for the Control of Cancer. He is a member and a past president of the South Carolina Medical Association, the Tri-State Medical Association and the Medical Society of South Carolina (Charleston County).

(No, Dr. Cathcart has not left us. This brief sketch was occasioned by a recent celebration in his honor.)

UNIVERSITY OF VIRGINIA MEDICAL SCHOOL

Dr. H. Rowland Pearsoll, a research fellow in internal medicine, read a paper, Reactions to Antipneumococcal Rabbit Serum, III. Effects of Varying Amounts of Pneumococcal Polysaccharide on Reversed Passive Anaphylaxis in Guinea Pigs, IV. A Simple Roughly Quantitative Method of Measuring Circulating Polysaccharide, at the meeting of the American Academy of Allergy in Chicago, on December 10th and 11th, 1945. Dr. Staunton L. EverSOLE and Dr. Oscar Swineford, Jr., were co-authors.

Dr. Oscar Swineford, professor of the practice of medicine, presided at the meeting of the American Academy of Allergy in Chicago, December 10th and 11th, 1945. The subject of the Presidential Address was Report of a Survey of Undergraduate Education in Allergy in the United States."

Dr. Samuel A. Vest, professor of urology, was elected chairman of the Section on Scientific Exhibits for the forthcoming meeting of the American Neurological Association to be held in Cincinnati in June, 1946.

CATAWBA VALLEY MEDICAL SOCIETY, Tuesday, February 12th, at Newton, N. C.

Supper at 6 o'clock, followed immediately by the program:

"Functional Arrhythmias, with Particular Reference to Extrasystoles," by Dr. Tom Baker, Charlotte.

Case Report of a case of Progressive Muscular Dystrophy, by Drs. L. M. Caldwell and Frank Jones, both of Newton.

"Rapid Treatment of Syphilis," by Captain Joseph B. McCloskey, Charlotte.

ERWIN HOSPITAL OFFICERS

Dr. P. G. Parker is the new chief of staff of the Good Hope Hospital at Erwin, N. C. Dr. W. E. Adair, Jr., is assistant chief of staff and secretary of the hospital staff. Named to the executive committee are Dr. Clarence L. Corbett and Dr. L. R. Dofermyre, of Dunn, and Dr. P. G. Parker, of Erwin. Dr. J. F. McKay, of Buie's Creek, is made an honorary member of the hospital staff.

PLAQUE FOR DR. ROYSTER

At the meeting of the North Carolina alumni of the University of Pennsylvania Medical School held at Pinehurst in May, 1944, Dr. Hubert A. Royster was the luncheon speaker.

Since 1944 was the fiftieth anniversary of Dr. Royster's graduation from the University of Pennsylvania, it was suggested that some recognition be made of Dr. Royster's record at the University of Pennsylvania as a student and his high place in the medical profession of North Carolina during the ensuing years.

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THREE nationally known research organizations recently reported the results of a nationwide survey to discover the cigarette preferences of physicians and surgeons.

Physicians all over the United States were asked the simple question: "What cigarette do you smoke, Doctor?" The question was put solely on the basis of *personal preference as a smoker*.

The thousands and thousands of answers from these physicians in every branch of medicine were checked and re-checked. The result:

More physicians named Camel as their favorite smoke than any other cigarette. And the margin for Camels was most convincing.

Certainly the average physician is busier today than ever before and is deserving of every bit of relaxation he can find in his day-by-day routine . . . a cigarette now and then if he likes. And the makers of Camels are glad to know that physicians find in Camels that extra margin of smoking pleasure that has made Camels such a favorite everywhere.

According to this recent nationwide survey:

**More Doctors
Smoke Camels
than any other cigarette**



After consultation with the University of Pennsylvania authorities it was decided to place a plaque on the wall of one of the University of Pennsylvania hospital rooms. This plaque reads as follows:

HUBERT ASHLEY ROYSTER, M.D.
RALEIGH, NORTH CAROLINA

Class of 1894

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The Johns Hopkins School of Hygiene and Public Health
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University of Michigan School of Public Health
University of Minnesota School of Public Health
University of North Carolina School of Public Health
University of Toronto School of Hygiene
Yale University School of Medicine, Department of Public Health

*The A. P. A. (Ninth) 1947 Exhibition**

to be held at Atlantic City, on the occasion of the Centennial Session of the American Medical Association, will also be the occasion of the judging of the "COURAGE AND DEVOTION BEYOND THE CALL OF DUTY" ART PRIZE CONTEST (\$34,000 in SAVINGS BONDS).

This contest was originally scheduled for the 1946 A. M. A. Session but has been postponed one year, upon the best advice, in order to give more physicians an additional year to complete their art pieces on this special prize subject.

*For further information regarding both the SAN FRANCISCO 1946 and the Atlantic City 1947 ART EXHIBITS, physicians may write either the *American Physicians Art Association Secretary-Treasurer, Dr. Francis H. Rodewill, Flood Building, San Francisco, Calif.*, or the sponsor, *Mead Johnson & Co., Evansville 21, Ind.*

PEDIATRIC ANTIQUES ON TOUR

As applied to the feeding part of pediatrics, the Mead Johnson Collection of Pediatric Antiques bears eloquent witness to the great strides made in the last few decades. Without such evidence, it would be difficult, indeed, to imagine our own grandparents being fed from some of these odd-shaped utensils that defied thorough cleansing, and sterilization and pasteurization were not then in vogue. In the days when wet nurses were common, some of these enterprising women managed to nurse three or four infants.

The baby's cereal of a century ago was stale bread lightly boiled in water, wine or beer. Butter or sugar might be added but the use of milk was regarded as dangerous. It was thought, according to Dr. T. G. H. Drake, "Milk might bring on the watery gripes, or the infant might imbibe with the milk the evil passions and frisky habits of the animal supplying the milk."

From a personal hobby enjoyed by the late E. Mead Johnson, Jr., the Collection of Pediatric Antiques, illustrated in the pages of a catalogue just issued, has evolved into one of considerable historical importance, depicting as it does the progression of infants' feeding vessels from the Greece of twenty-five centuries ago down to time within our own memory.

By request, the collection now goes on an annual pilgrimage to colleges, hospitals, museums, libraries and other institutions of learning. Arrangements may be made for stopovers upon application to the curator, Mead Johnson & Company, Evansville 21, Indiana, U. S. A.

DR. CHARLES L. NEWLAND, Brevard, N. C., who was with the Medical Corps of the Army Air Force since August, 1942, will be placed on the inactive service list in March. Dr. Newland is taking a refresher course at Duke University before returning to active practice at Brevard.

Dr. Newland entered the service with the rank of Captain and served as assistant chief of surgery, chief of surgery and as base surgeon. His service stations were Maxton (N. C.) Air Base; Stout Field, Indianapolis; and Baer Field, Fort Wayne. Dr. Newland's rank is now that of Lieutenant Colonel.

DR. W. B. LYLES announces the association of DR. W. B. LYLES, JR., recently returned from military service, at 145 North Converse Street, Spartanburg, South Carolina. Practice limited to Urology and Urological Surgery.

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DR. O. B. CHAMBERLAIN, Colonel, A. U. S., until recently in charge of the neuro-psychiatric division at Bushnell General Hospital, Brigham City, Utah, has returned to Charleston. The Neuro-psychiatric Department of the Medical College has developed into a major division, and Dr. Chamberlain has been elected by the Board of Trustees to the full-time professorship of that department. He does not plan to assume his duties until the next scholastic year, which begins in September. In the meantime, he hopes to spend from six eight weeks in Philadelphia and New York taking some refresher work and visiting various medical schools to observe how they conduct their teaching in the field of neuropsychiatry.

MARRIED

The wedding of Miss Dorothy Jean Watkins and Dr. John Pope Collins, both of Duke University, was solemnized January 1st in Brighton Presbyterian Church, Zanesville, Ohio.

Ushers were George B. Watkins, Jr., brother of the bride, Dr. Robert Atwell, and Donald Blaneett. The bridegroom's best man was Dr. Richard G. Connor of Durham and Rutherford, New Jersey.

Dr. Douglas Jennings, Jr., Bennettsville, S. C., was married to Miss Elizabeth Ilerton in Charleston on October 6th. Dr. Jennings is interning at Roper Hospital.

Dr. Hugh Dorch, Jr., and Miss Mae Joyce Whitfield, both of Durham, were married on February 2nd.

DIED

Dr. Charles B. Herman, 46, of Statesville, N. C., lost his life in Edisto River, near Charleston, S. C., Jan. 18th, when the boat capsized as a group of men were returning from duck hunting. Dr. Herman reached shore but died of a heart attack. One other of the group was drowned.

As we are in press comes the news of the death of Dr. Isaac H. Manning, Dean of the Medical School of the University of North Carolina for many years. More extended notice will appear in our next issue.

PREVENTION OF DISABILITY IN TRAUMATIC CONDITIONS OF THE EXTREMITIES

(J. L. Lindquist, Chicago, in *Jl. Indiana Med. Assn.*, Nov.)

In the surgery of trauma the end result depends as much on the follow-up care as on immediate treatment.

In hand injuries special care should be given to the prevention of contracture about the joints, especially in older patients, and in those having arthritic changes. Too often a patient who sustains an injury to only one or two fingers acquires contracture and fixation, not only of the injured digits, but of the uninjured fingers also. To prevent this essential immobilization must be employed, but only in the position of function.

When the injured finger must be kept at rest, measures should be taken to maintain function in the adjoining fingers. At the time dressings are done the parts that can be moved with safety should be moved actively or passively, and the patient should be instructed to carry out these motions several times daily at each of the digital joints. *Diathermy or the infra-red lamp are of secondary value to the intelligent employment of motion.*

Once adhesions have formed, the efforts must be directed toward the gradual stretching out of the adhesions, a process which usually requires months of intensive treatment.

BOOKS

HOWELL'S TEXTBOOK OF PHYSIOLOGY, edited by JOHN F. FULTON, M.D., Sterling Professor of Physiology, Yale University School of Medicine. Fifteenth Edition. 1304 pages with 507 illustrations. *W. B. Saunders Company*, Philadelphia and London. 1946. \$8.00.

In no other way, perhaps, are doctors generally so remiss as in failing to keep up with the discoveries in physiology. We are much better informed on pathology, bacteriology, pharmacology, even psychology, than on the advance in the knowledge of physiology since we were graduated in medicine.

Certainly it behoves us to acquaint ourselves with the present status of knowledge of this, the science which treats of function of the body as a whole and of its various parts.

This, the 15th, edition of the great textbook of the great physiologist, Howell, is the ideal work to bring up to now our lagging knowledge in this field of importance second to none.

THE CARE OF THE AGED (GERIATRICS), by MALFORD W. THEWLIS, M.D., Attending Specialist, General Medicine, U. S. Public Health Hospital, New York City; Attending Physician, South County Hospital, Wakefield, R. I.; Director, Thewliss Clinic; Special Consultant, Rhode Island Department of Public Health. Fifth edition, thoroughly revised, with 65 illustrations. *The C. V. Mosby Company*, 3200 Washington St., St. Louis 3, Mo. 1946. \$8.00.

For a score of years this busy and mentally alert internist has devoted special attention to the health ills of those past their physical prime. He is not one of those who believe that a man or woman is of little use after fifty, and that he or she should be shoved into a corner after sixty. He realizes that health measures in the latter years should be different in many ways from those which are best in the earlier decades. He knows that intelligent health care for the elderly is a part of the duty of doctors, that by rendering this health care we can fulfil a large part of our duty in making greatest contribution to the health and happiness of our kind; and he tells us how best to do this.

THE 1945 YEAR BOOK OF GENERAL SURGERY, edited by EVARTS A. GRAHAM, A.B., M.D., Professor of Surgery, Washington University School of Medicine; Surgeon-in-chief of the Barnes Hospital and the Children's Hospital, St. Louis. *The Year Book Publishers, Inc.*, 304 S. Dearborn St., Chicago. \$3.00.

Among the many important things one may learn from this Year Book are:

When and why, with ether as the anesthetic agent, is curare dangerous.

Three cardinal signs of cancer of the thyroid.

Persistence of what four signs of biliary tract obstruction necessitates eventual surgical exploration.

Four microscopic characteristics of a myoblastoma indicating cancer.

The days and months in which perforations of peptic ulcers are less likely to occur.

The basic triad on which salvage of extremities with main artery damage depends.

What the "S" of gramicidin S connotes. Three effects of the application of gramicidin S to wounds.

These are just a sampling of the scores of positive new advances in diagnosis and treatment presented within these covers.

PRINCIPLES OF DYNAMIC PSYCHIATRY, by JULES H. MASSERMAN, M.D., Division of Psychiatry, Department of Medicine, University of Chicago. 322 pages with four plates. W. B. Saunders Company, Philadelphia and London. 1946. \$4.00.

The author gives as his reason for putting out another book on psychiatry that it is for the immediate purpose of getting into print certain fundamentals now being taught by himself and his colleagues only through lecture and precept. He wishes to provide an introduction to the principles of modern psychiatry and to demonstrate the reasonableness and the method of effective therapy.

Part I presents a critical consideration of the various theories of behaviour; Part II reformulates these theories into an organon of behaviour.

Instructive laboratory experiments are described and case histories are given which have great teaching value.

Every reader will thank the author for the glossary in which may be found help in situations in which, as the author well says, the student "may find passages terminologically obscure."

Appendices discuss psychoanalysis of a neurotic personality, psychoanalytic formulations of the psychoses, illustrative motion picture films and some principles of group communication.

TECHNIC OF ELECTROTHERAPY and Its Physical and Physiological Basis. Second printing. By STAFFORD L. OSBORNE, M.S., Ph.D., Associate Professor, Department of Physical Medicine, Northwestern University Medical School; and HAROLD J. HOLMQUEST, B.S., B.S.(M.E.), Lecturer in Applied Physics, Department of Physical Medicine, Northwestern University Medical School. Charles C. Thomas, Springfield, Ill. 1945. \$7.50.

Electrotherapy, along with all other forms of physiotherapy, has had a great resurgence during and since World War II, perhaps even more than that brought about by World War I. At a great many medical schools and clinics much carefully checked work is being done in an endeavor to learn just what electrotherapy will do and what it will not do.

The book under review is devoted to the technic and to an exposition of the physical and physiological bases on which this form of treatment rests.

An intimate acquaintance with this text will qualify one to evaluate the reports as they come in from these research stations.

THE CHEMISTRY OF ANESTHESIA, by JOHN ADRIANI, M.D., Director, Department of Anesthesia, Charity Hospital of Louisiana at New Orleans, Clinical Assistant Professor of Surgery, La. State University School of Medicine. Charles C. Thomas, Springfield, Ill. 1946. \$7.00.

Part I treats of the inorganic phases of chemistry important in the practice of anesthesia; Part II of the organic chemistry, mainly of depressant drugs; Part III of the biochemistry of anesthetic administration, the chemical changes in tissues brought about by the administration of anesthetic agents to man and other animals.

This is an entirely practical book dealing with the fundamental facts which need to be known by all those who administer anesthetics to patients.

SURGICAL TREATMENT OF THE MOTOR-SKELETAL SYSTEM. Supervising Editor, FREDERIC W. BANCROFT, A.B., M.D., F.A.C.S., Associate Clinical Professor of Surgery, Columbia University; Associate Editor, CLAY RAY MURRAY, M.D., F.A.C.S., Professor of Orthopedic Surgery, College of Physicians and Surgeons, Columbia University. In two volumes. J. B. Lippincott Company, 227 S. Sixth St., Philadelphia 5, Pa. 1945. \$20 for the two volumes.

Some two-score specially qualified surgeons and physicians have collaborated to produce this unique work. According to a new plan these volumes present the surgical treatment of all conditions involving a physiologic unit as a unit. Thus, the bones, the bones, the joints which articulate them and the muscles, tendons, fasciae and ligaments which give motion and stabilization to the joints, and even the bursae which help to cushion the joint—all these are considered as a unit. Even the nerves supplying the unit are included. Surgical treatment includes all procedures, whether operative or non-operative utilized in the care of the conditions dealt with. The illustrations combine clearness of presentation and pleasing appearance and each illustration improves the presentation of the subject.

One runs no risk in confidently predicting that this work will meet with a warm welcome by the profession generally.

THE 1945 YEAR BOOK OF PEDIATRICS, edited by ISAAC A. ABT, D.Sc., M.D., Professor of Pediatrics, Northwestern University Medical School; with the collaboration of ARTHUR F. ABT, B.S., M.D.; Comdr., M.C. USNR.; Associate Professor of Pediatrics, Northwestern University Medical School. The Year Book Publishers, Inc., 304 S. Dearborn St., Chicago. \$3.00.

Information to be found in this year's book covers these (and hundreds of other) points:

A drug effective in average childhood urinary infections, and another in Streptococcus fecalis infection.

The three points of differentiating bacterial from virus central nervous system infections by the spinal fluid.

Three treatments or drugs used for pinworms and their comparative therapeutic efficacy.

Two ways in which minimal penicillin dosages may be dangerous.

The four symptoms or findings in infantile diarrhea which have a grave, if not fatal, import.

Immediate treatment effective in cases of strychnine poisoning.

The most commonly misdiagnosed disease of children.

Five diseases other than lead poisoning in which juxta-epiphyseal zones of increased density occur.

Three factors necessary for the development of erythroblastosis of new born infants.

Twelve diseases known to produce the picture of serous meningitis.

Most serious abdominal conditions heralded and accompanied by pain are caused by two pathologic processes: a single point differentiates the pain of the two.

The three groups of patients in which a pronounced depression of vitamin A is characteristic.

METASTASES, MEDICAL & SURGICAL

Following is a review of this book in *Medical Times*:

This tabulation of medical and surgical metastases, with its running comments of illuminative character, will be of great pathologic and clinical aid to general practitioners, surgeons and röntgenologists engaged in the tracing of such traveling processes as infection, embolism and infarction and the dissemination of neoplasms. Diagnostically, the skilfully organized data are utilizable in working either from source to metastasis or in reverse, so to speak—from metastasis to source. It is a product of extensive research which invokes effectively a technic that suggests the Sherlockian detective's utilization of clues, laboriously marshalled, likely to be missed by the Watsons of the world, thus it is bound better to implement and therefore augment one's clinical insight. The author's commendable efforts yield fascinating shortcuts for the busy clinician.

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CHUCKLES

Then They Knew She Was Out of Her Head

The mother was delirious and talking incoherently. None of the family could understand her. They asked the doctor if he could understand her. The doctor leaned over and listened attentively for quite a while then informed the family that she said, "Be sure to pay the doctor first."

"Madam," remarked the new acquaintance of an aged gentleman bailing from the Eastern Shore of Virginia, "since your name is Palmer you are likely related to Senator Palmer, whose grandfather was born in your county."

The old lady didn't know, but thought perhaps she might be. "Was he in the army?" she asked.

"Yes," answered the Senator's friend, "he was in the army and a general."

The old lady was positive that he was a relation.

"But," went on the friend, "he was a general in the Union army." "Well," she rejoined, "you know there's a black sheep in every family."

In a sad, hopeless voice the rejected suitor exclaimed, "Well, Susie, I suppose I'll never marry now."

"Oh, you silly boy," replied Susie, not a little flattered by the look of tragic yearning in his eyes, "just because I've turned you down it doesn't follow that other girls will do the same."

"Oh, yes, it does," moaned the disappointed lover. "If you won't have me, who will?"

Clarence Darrow, beginning his career, was opposed in court by a veteran attorney who repeatedly and insultingly referred to Darrow as "that beardless youth."

At length Darrow retorted: "The King of Spain once dispatched a youthful nobleman to the court of a neighboring king, who received the visitor with the outraged complaint: 'Does the King of Spain lack men, that he sends me a beardless boy?' To which the young ambassador rejoined, 'Sire, if any king had supposed you imputed wisdom to a beard he would have sent you a goat.'"

A stout gentleman, determined to lose weight during stay on his Vermont farm, picked out a big pair of overalls for energetic exercise. Then a thought struck him. "Wait a minute," he said to the clerk, "those fit me now, but I expect to lose a lot—maybe I had better buy a smaller pair."

The clerk shook his head, calmly went on wrapping the overalls. "Mister, if you can shrink as fast as those overalls will you'll be doing pretty good."

The medical student moved to a new boarding house. After a week he confessed to a fellow boarder that he could never remember the landlady's name. Said the other, "That's easy. Her name is Womack. Rhyme it with stomach. Here's where you get your stomach fed—Womack stomach."

The new boarder was grateful and the next morning when he came down to breakfast he called out cheerily. "Good morning, Mrs. Kelly."

"What did the foreman say to you for being late on Friday?"

"He gave me the D. C. M."

"What's that?"

"Don't come Monday."

ELECTRON MICROSCOPE AIDS CANCER TODAY
(New York State Jl. of Medicine, Oct. 1)

A one-ton electron microscope powerful enough to magnify windpipes of mosquitoes to a size of 2 inches has been installed at the National Cancer Institute, Bethesda, Maryland.

The microscope will not be restricted to the study of cancer but will be available to other divisions of the National Institute of Health.

Costing \$13,000, the microscope, built by the Radio Corporation of America, is the 19th in this country. It uses electrons instead of light rays, and magnetic fields instead of glass lenses. It has revealed for the first time how disease-fighting organisms in the blood attack disease-producing viruses. The machine will also enable scientists to compare diseased tissues with healthy tissues under direct magnifications of 10,000 to 75,000 diameters.

USE OF PENICILLIN BY MOUTH IN SUBACUTE BACTERIAL ENDOCARDITIS

(F. G. Burke et al., Washington, in *Med. An. D. C.*, Jan.)

The successful use of orally administered penicillin in the treatment of a case of subacute bacterial endocarditis is reported.

The dosage consisted of 100,000 units of powdered sodium penicillin in a double gelatin capsule q. 3 h. for 14 days, totaling 11,200,000 units.

No subjective or toxic symptoms were noted.

In a follow-up period of eight months the patient has remained afebrile, has shown persistently sterile blood cultures, and has been completely asymptomatic. It would seem reasonable to conclude that a cure has been achieved.

The advantages of penicillin by mouth for this disease are manifest because of the ease of administration.

A MODIFIED SMITH-PETERSEN NAIL FOR FRACTURES OF THE NECK OF THE FEMUR

(W. H. Gervis, in *Proc. Royal Soc. of Med.* (Lond.), Sept.)

The ordinary Watson-Jones type of nail has the disadvantage that it may slip out with consequent re-displacement of the fracture.

To prevent this the nail has been further modified by Pidcock by means of a cross pin at the base and Brittain and Corry by means of snagged edges at the base. In many cases the results with such nails are perfectly satisfactory.

Fixing the nail at the base has the disadvantage that it does not allow for impaction to occur. It has been stated that impaction only occurs as a result of avascular necrosis, but in cases observed there has been no evidence of this complication.

Should impaction occur the results may be serious for the point of the nail will be forced into the acetabulum. Another possible complication is non-union.

To obviate these disadvantages, a nail was tried with a notch cut in each flange a quarter of an inch from the point. It was hoped that these would fix the point of the nail in the head of the femur, and yet allow the base to extrude if impaction occurred.

This nail has been tried out in 25 cases and so far has proved satisfactory in that respect. Removal of the nail after union has occurred has presented no difficulties.

ELONGATED UVULA

(L. C. Kuyrkendall, McAlester, Okla., in *Jl. Okla. Med. Assn.*, Dec.)

Elongated, hypertrophied or edematous uvula is often the cause of cough, clearing of throat, nausea or vomiting. The patients may fear a chronic bronchitis or tuberculosis.

The condition may be caused by a chronic pharyngitis, secondary to a post-nasal discharge or excessive use of tobacco or alcohol. The uvula may be only slightly longer than normal or it may be very long.

Edematous uvula is an acute condition and may follow surgery in the pharynx, the use of too much alcohol or too strong condiments, or excessive clearing of the throat. It is practically always present along with peritonsillar abscess.

The inflamed, elongated uvula, not necessarily edematous, responds to astringents and ceasing to take irritants into the mouth.

The uvula that is elongated or hypertrophied chronically in nature must be treated by removal of the tip or amputation. The author uses cervix scissors with a tooth at the end of each blade to keep the uvula from slipping out as the blades are closed. An inverted V amputation of the uvula, bringing the edges together with black silk is used by some.

The edematous uvula is annoying, but not painful. It is necessary to puncture the uvula in many places or clip off the tip, but putting to bed on side permits the uvula to fall to the side of the pharynx and promptly relieves symptoms.

METASTASES, MEDICAL & SURGICAL

Following is a review of this book in *Medical Times*:

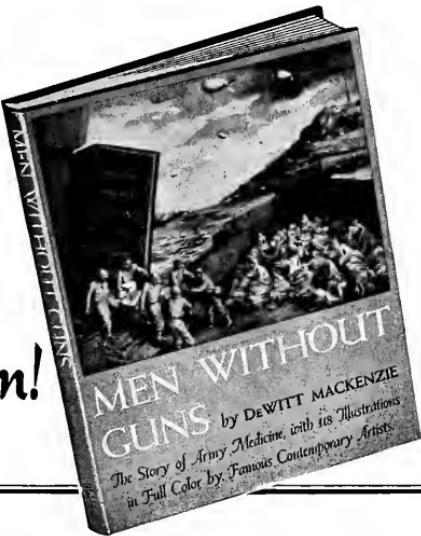
This tabulation of medical and surgical metastases, with its running comments of illuminative character, will be of great pathologic and clinical aid to general practitioners, surgeons and roentgenologists engaged in the tracing of such traveling processes as infection, embolism and infarction and the dissemination of neoplasms. Diagnostically, the skilfully organized data are utilizable in working either from source to metastasis or in reverse, so to speak—from metastasis to source. It is a product of extensive research which invokes effectively a technic that suggests the Sherlockian detective's utilization of clues, laboriously marshalled, likely to be missed by the Watsons of the world, thus it is bound better to implement and therefore augment one's clinical insight. The author's commendable efforts yield fascinating shortcuts for the busy clinician.

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DeWitt Mackenzie of the Associated Press, whose graphic recital of the story behind the pictures reproduced in this book, will hold the reader's attention from first to last, covered the African, European, Burma, China and Pacific fronts, where he saw the Army Medical Corps in action. He has produced a contemporary record of extraordinary interest and permanent value.

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JAMES M. NORTHINGTON, M.D., Editor

VOL. CVIII

MARCH, 1946

No. 3

President's Address*

Doctor Charles Thomas Jackson

GEORGE H. BUNCH, M.D., Columbia, South Carolina

"The mind's the standard of the man."—Watts.

IN CONFORMITY with the custom of this association that the president deliver an annual address, we have decided on this occasion to present some salient facts in the life of Dr. Charles T. Jackson, in an endeavor to promote a better understanding of a man endowed with a dual personality—a Dr. Jekyll-and-Mr. Hyde in real life. Although without psychiatric training we give our impression of the man and of his motives. We trust that, in this analysis, which is admittedly unorthodox, the assembled data may at least be of historic interest.

After the passage of a century it has been difficult to obtain factual details about the doings of a man who is remembered by physicians; not for his accomplishments, but for his failures; not for his virtues, but for spurious claims made by him against the work and the character of successful rival investigators. His disregard of the rights of others, of justice, of honor; and his malice, have made him a medical pariah whose name is anathema. Much of the information about him is now available only as it has been recorded by those who have had to defend themselves against him. How a graduate in medicine of Harvard who became a chemist and a geologist of worldwide rep-

utation, with membership in many national scientific societies, should have become so debased, is a question which posterity has answered by branding him a villain who would rob honest men of their due and despoil them of their reputation.

We know nothing of Jackson's ancestral background except that he was born at Plymouth, Massachusetts, in 1805, the son of Charles Jackson, a merchant, and of Lucy Cotton. He inherited a retentive memory from his mother. Not much may be learned about him as a child except that he showed a bent for scientific investigation. As was the custom of the times he studied medicine under the private tutorage of Dr. James Jackson and of Dr. Walter Channing of Boston. They prepared him for entrance into the Harvard Medical School where he received the M.D. degree in 1829, having been accorded the Boylston prize for a dissertation on "Paruria Mellita."* After graduation he manifested a preference for the fundamental sciences, chemistry and geology, rather than for clinical medicine. In the era before the establishment of special professional schools the study of medicine in an institution with well equipped chemical and physiological laboratories offered an opportunity for basic training in the

*Presented to the Forty-seventh Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, held at Richmond, February 25th and 26th.

**"The passing of urine containing honey"—an old name for diabetes.

sciences that could not be obtained elsewhere. In the fall of 1829 he went to Europe for post-graduate medical study under the masters in the hospitals of Paris—the mecca of the medical world at that time. There he also attended lectures given by DeBeaumont on geology in the Royal College of Mines. From Paris he went to Vienna, where he performed autopsies upon 200 patients who had died of cholera.

He returned to America in 1832 to begin the practice of medicine in Boston. Finding a growing demand for his services in geology, mineralogy and chemistry he, not against his inclination, devoted most of his time to them. A boundary dispute between Maine and Massachusetts was settled on the basis of the findings of a survey he had made of this region in 1837, 1838 and 1839. In 1839 and 1840 he surveyed the state of Rhode Island and made an analysis of its soils and minerals for which he received \$2,000 that had been appropriated for this purpose by the Legislature. In 1839 he became state geologist of New Hampshire, finishing a survey of that state in 1843. He was the first state geologist of Maine, of Rhode Island and of New Hampshire. In 1843 he was offered the position of state geologist of New York but declined to serve. In 1847 he was appointed United States geologist to report to the Federal government on the public lands in the Lake Superior region. After two years he resigned because of politics. He found copper and his work was an important factor in the development of the great copper mines of northern Michigan. One of these, the Calumet and Hecla, has paid millions on millions in dividends and is still producing. Today most copper stocks are listed on the Boston Exchange because so many of the mines have been developed by Boston capital. He was active in overcoming the incredulity in the East about the richness and the extent of the native store of copper. In a letter to *Silliman's Journal*, after locating a 50-ton lump of copper, he says: "Those who were surprised that I recommended working mines for native copper should come and see and they would believe." In 1853, he surveyed and made a report on the property of the North Carolina Copper Mining Company, in Person County, of that state.

Dr. Jackson was the first to find deposits of tellurium and of selenium in America. Because of him emery mines were discovered and operated in Chester, Mass., making the United States independent of the British-controlled corundum mines in the Grecian Archipelago. For over 25 years his work as state geologist was an important part of the history of the Boston Society of Natural History: in 1847 he was elected vice-president and some years later declined the presidency of this society. As a naturalist he wrote about the bream,

the alewife, the sand sharks of Nantucket, the spongilla in the Brookline reservoir, the pink water lily, the beaver and the great sequoias of the Sierras.

On June 6th, 1822, at Mackinac, the headquarters of the American Fur Company and the center of a series of trading posts for the upper Mississippi valley and the territory about Lakes Superior, Huron and Michigan, a young Canadian half-breed voyageur, Alexis St. Martin, was accidentally wounded at close range by the discharge of a shotgun. The integument and soft parts the size of a man's palm were torn away from the left lower chest and upper abdomen leaving a sucking wound. The sixth rib from its middle anteriorly was blown away. The lower lobe of the left lung was punctured by the end of the broken rib, a mass the size of a turkey egg protruding. A portion of the anterior wall of the stomach was destroyed, leaving an opening into the gastric lumen the size of a man's thumb. Because of the skillful attention of Dr. William Beaumont, United States army surgeon stationed at the frontier post, and because he had an iron constitution, the patient, after a long convalescence, recovered, except for a large gastric fistula which persisted until the patient died at the ripe age of 80 years.

To Beaumont Fate had brought opportunity to which he was destined for years to devote his best efforts, in the observation of stomach behavior and the study of gastric digestion by means of experiments with food tied to strings and placed through the fistula into St. Martin's stomach. The careful recording of his work comprises the first knowledge of the basic principles of digestion. Beaumont was the first great American physiologist. In the preface to his book about the case he says: "I submit a body of facts which cannot be invalidated. My opinions may be doubted, denied or approved, according as they may conflict or agree with the opinion of each individual who may read them; but their worth will be best determined by the foundation on which they rest—the incontrovertible facts."

Early in May, 1834, Beaumont, taking Alexis with him, gave demonstrations before medical societies in several large cities. In New Haven a resolution was passed "that the thanks of the Connecticut (medical) convention be tendered to Dr. Beaumont for his interesting exhibition of the subject of his physiological experiments." After the presentation in Boston, Jackson wrote Beaumont: "Since you left Boston I have been almost continually employed in researches on the chemical composition and the physiological properties of the gastric fluid which you had the goodness to furnish me with during your short stay with us. . . . I think we could do something handsome in

the way of physiological researches if we had St. Martin here. . . . If you can, do endeavor to come and spend a few months with us." When, in a short while, Beaumont was ordered to St. Louis, Jackson tried to forestall the move by circulating a petition to Congress that Beaumont be sent to Boston instead. Surgeon General Lovell wrote on the back of this paper: "Doctor Beaumont already understands that he cannot conveniently be stationed at Boston: so he has stated that application was made without his knowledge or desire." At some time after this a letter written in excellent handwriting to which was attached Alexis' mark was received by Dr. Beaumont. It says: "I have received a letter a few months ago from a Mr. Davis Campbell, corresponding secretary of the American Physiological Society of the city of Boston, in Massachusetts, offering to engage me for a term of three or six months to be placed under the direction of an eminent physician for the purpose of experiments on digestion similar to those you have made." There can be little doubt that the eminent physician was Dr. Charles T. Jackson. Alexis, having tired of Beaumont's experiments, had disappeared into the Canadian woods.

When Jackson returned to America from France in 1832, Samuel F. B. Morse, an artist from Boston, was a fellow-passenger aboard the *Sully*. At the table one day the conversation fell upon the experiments of Ampere with the newly discovered electro-magnet. One of the company, Mr. Fisher, a lawyer, asked if the flow of electricity was retarded by the length of the wire: "No," answered Jackson, "passage of electricity through wire is instantaneous." He told of Benjamin Franklin having passed currents through miles of wire with no difference in time between the touch at one end and the spark at the other: "If this be so," said Morse, "and the presence of electricity can be made visible at any desired part of the circuit, I see no reason why intelligence might not be instantaneously transmitted to any distance." On landing in New York, Morse declared to the captain of the ship: "Should you hear of the telegraph one of these days, as the wonder of the world, remember the discovery was made on board the good ship *Sully*."

After long weeks of experiment Morse perfected the telegraph and applied for a patent in 1837. Jackson then wrote Morse that he had seen notices of "our telegraph" in the papers and demanded that he (Jackson) be given due credit. Morse replied: "I have always said, in giving any account of my telegraph, that it was on board the ship during a scientific conversation with you, that I first conceived the thought of an electric telegraph. Is there really any more that you will claim, or that I in truth and justice give?" Although Jack-

son wrote of "our telegraph," he soon claimed to be the principal inventor and then to be "the" inventor. Final decision in favor of Morse over Jackson and other contestants as the inventor of the telegraph was made by the United States Supreme Courts in 1854. The Chief Justice in delivering the decree said: "that he (the inventor) derives his information and counsel from the best sources and acted upon it, neither impairs his rights as an inventor nor detracts from his merits."

In 1834, William G. Morton, a dentist of Boston who had attended lectures on chemistry by Jackson at Harvard and who had lived in Jackson's home, consulted him about some way by which pain incident to the filling and the extraction of teeth might be prevented. Jackson suggested that sulphuric ether be applied to the gums about the affected teeth. Finding the local effect of no benefit, Morton thought there might be loss of sensation during the hypnotic state that was known to follow the period of excitement occurring after ether had been inhaled at the so-called ether frolics. He put his dog to sleep with ether, and then himself for seven minutes. His two dental assistants, after inhaling the fumes, became uncontrollable, so that he feared for their safety. When this was reported to Jackson he advised that only pure sulphuric ether, obtainable from a certain apothecary shop in Boston, be used, instead of the commercial product. By the use of this agent Morton found that teeth might be extracted without pain. After he had perfected the technique of its administration by the use of a special inhaler, Morton obtained the consent of Dr. J. C. Warren for Morton to administer the agent, the nature of which was kept secret, to a patient for the removal by Dr. Warren of a tumor of the jaw at the Massachusetts General Hospital. At the successful conclusion of the operation, which was performed without pain on October 16th, 1846, Dr. Warren exclaimed to the assembled physicians and students: "Gentlemen, this is no humbug!" Dr. Bigelow, professor of surgery at Harvard, said: "No, gentlemen, we have not been deceived by a trick of the imagination. Did you notice how, throughout the operation, the patient's eyelids were closed, his head heavy with sleep, his mouth relaxed? These are infallible signs of profound sleep, of complete insensibility. We have today witnessed something of the utmost importance to the art of surgery. Our craft has, once for all, been robbed of its terrors." Morton's success was the greater because Horace Wells, a dentist at one time in partnership with Morton, had failed in a demonstration before Dr. Warren to prove the anesthetic qualities of nitrous oxide. Morton hastened to patent his agent as Letheon, named for Lethe, the Greek goddess of oblivion. Jackson was to receive

a ten-per cent royalty from the sale of Letheon and also from the sale of the inhaler; but, instead, at his request, he was paid \$500 in cash for "advice given." Patent No. 4818 was granted on November 12th, less than a month after the historic ether day.

On March 2nd, 1847, before the Boston Academy, Jackson declared himself to be the sole discoverer of the new anaesthetic. Morton's name was not mentioned. In the *Hartford Courant* of December 6th, 1846, Wells had already claimed to be the discoverer of drug-induced anesthesia. He had used nitrous oxide as the agent. Thus began the famous anesthesia controversy, the most bitter in the annals of American medicine, with Boston, the home of the three contestants, as the arena, and the medical world as the audience.

In February, 1850, the Montyon prize of 5,000 francs was awarded by the French Academy of Sciences "to be divided evenly between the two benefactors of mankind," Morton and Jackson. When Morton declined his share of the money a gold medal was struck in his honor. In England, \$50,000 was collected for Morton, but Jackson protested so effectively that the money was returned to the donors. Harvard University awarded Morton an honorary degree, the Massachusetts General Hospital presented him with a silver bowl and \$1,000 in cash.

Jackson, after a survey of a gold mine at Dahlonega, Georgia, in March, 1854, learned from Dr. Crawford W. Long that Long had, on March 30th, 1842, at Jefferson, Georgia, used ether as an anesthetic for the performance of a minor operation. This antedated "ether day" by more than four years and was the first time that an operation had ever been performed without pain. Long's priority to the discovery of ether anesthesia was established only by the aid of the University of Pennsylvania of which he was an alumnus. Pique, from the stinging rebuke given by Oliver Wendell Holmes to Hodge, professor of obstetrics at Pennsylvania, and to Meigs of the Jefferson Medical College, when they declared puerperal fever to be due to accident or to an act of Providence rather than to infection, as had been proved by Holmes in 1843, gave zest to their championship of Long.

Morton's sales campaign for his anesthesia was wrecked when, at the instigation of Jackson, the Massachusetts Medical Society condemned the secret Letheon as being unethical. Then Morton announced that Letheon was nothing more nor less than sulphuric ether, which any one could buy and use without paying any royalty. So the patent became worthless. In 1849, Morton requested of the United States Congress a monetary reward of \$100,000, in lieu of the royalties which he had never received. Daniel Webster sponsored the

grant, having said in a letter dated June 5th, 1847: "Dr. Morton's discovery is a new and useful art, and as such the proper subject of a patent." Morton wrote President Pierce asking that the government buy his patent and when this was not done brought suit against the government, naming Dr. Charles A. Davis as defendant for using ether anesthesia at the Naval Hospital. Through Jackson's influence the American Medical Association condemned Morton for unprofessional conduct. By the help of Senator Dawson of Georgia and of Senator Truman Smith of Connecticut, Wells' native state, Jackson succeeded in having Morton's patent annulled on December 1st, 1862, sixteen years after it had been issued.

In his manual on etherization, published in 1861, Jackson says: "I made the discovery I had for so long a time been in quest of, a means of rendering the nerves of sensation temporarily insensible, so as to admit the performance of a surgical operation on an individual without his suffering pain thereupon. . . . That I did . . . fully declare my unqualified belief both in the safety and the efficiency of this method of destroying all sensation of pain in the human body during the most severe surgical operations, no one doubts, and it is abundantly proved by abundant legal evidence, which has never been impeached or doubted in any quarter. . . . That I did first discover that the nerves of sensation could be and were paralyzed to all sensation temporarily and safely by the inhalation of ether vapor, is admitted by all scientific men who have examined the evidence. . . . The few who have opposed my claim are either ignorant of the facts proved, or they willfully ignore evidence they cannot dispute. . . . I employed a dentist, a nominal medical pupil of mine, Mr. W. T. G. Morton, to make trial of my discovery in dental surgery, which he consented to do if I would take the entire responsibility. This I did before two witnesses. . . . I then engaged this dentist to go to Dr. John C. Warren and to ask him to test the ether. . . . I was not informed when the trial of the ether was to be made at the hospital and it was done the next day without notifying me, that I might attend and witness the effects. The operation was of minor surgery, the removal of a small tumor of the cheek, near the angle of the jaw. It was partially successful, the patient feeling the operation but suffering no pain from it. I then saw Dr. Warren myself, and found that he had not been informed what the anesthetic agent was, that had been employed, nor even that Mr. Morton came to him as my messenger. . . . He said that there would be an amputation to be done at the end of the week, on Saturday, and requested me to come to the hospital and administer the ether myself, as he did not like to have such a

quackish fellow as Morton about the hospital. . . . I replied that I was under obligation to be at Liberty, Maryland, on Monday . . . but would fully instruct Morton and send him to administer the ether. . . . Without any desire to diminish the credit to any person who aided in verifying my discovery, or in extending a knowledge of it, I distinctly affirm that its free use in the Massachusetts General Hospital was effected by me, and that the breaking up of an odious patent and making ether free to all mankind was wholly my act. This the evidence and records of the patent office will freely prove. . . . There is evidence that Dr. C. W. Long of Athens,* Georgia, performed surgical operations on persons in an etherized state on March 30th and July 3d, 1842, but a few months after I made the discovery of anesthesia. He also operated with ether September 9th, 1845, as appears by his record and evidence."

Of the three active participants in the epochal anesthesia controversy: Wells became insane and committed suicide in a prison cell; Morton died of an apoplectic stroke precipitated by Jackson's persecution; Jackson died in 1880 at the age of seventy-five years, after having been a patient in McLean Asylum for eight years. Of the three, two became insane and had to be restrained; and the third, Morton, must also have been emotionally unstable. He took a skeleton in his trunk on his honeymoon in order that his study of anatomy might not be interrupted.

In 1845 Schoenbein was distilling nitric and sulphuric acids on the kitchen stove. When the flask broke he wiped up the mess with his wife's apron, washed out the apron and hung it up to dry before the fire. There was a flash and the apron disappeared in flames. He repeated the experiment with cotton and found that by treating it with a mixture of sulphuric and nitric acids he obtained a highly inflammable material of the same appearance as cotton.

In addition to the controversy with Morse about the discovery of the telegraph, with Beaumont about Alexis St. Martin and with Morton about the discovery of ether anesthesia, Jackson also contested Schoenbein's discovery of guncotton. Even more astonishing, ignoring Harvey's monumental work, he claimed to have discovered the circulation of the blood. Through each of these five episodes the behavior of Jackson consistently conformed to a distinctive morbid pattern which was as much a part of him as was his stature, or his complexion.

When Jackson died his wife and several children survived him. As a man he was contentious and quarrelsome. He was a chronic alcoholic and had been on many debauches before his admission to

the asylum. He lived in an age of great scientific and industrial development. America, the young democracy, was having growing pains, and was beginning to take its place among the great nations of the world. Never had it been the lot of an individual to play so prominent a part in such varied branches of scientific investigation and discovery.

Jackson was a versatile genius with a brilliant mind. Graduated at Harvard, in an atmosphere of culture and tradition, he had the best training that America offered, and then added to this the best afforded in Europe. From his superior knowledge he was able to suggest to others channels of scientific investigation which they adopted and pushed to successful accomplishment. Without his aid no one may know when long-distance communication might have been established, nor when inhalation anesthesia might have made possible the development of modern surgery. In fairness we must give credit where credit is due. An inherent mental weakness was his inability to concentrate on any one problem until it was solved. He always had too many irons in the fire. Repeatedly ideas, originally his, were put to practical application and capitalized by others. It is no wonder that he became resentful.

Of the three factors—heredity, environment and germ variation—which make each of us what he is, heredity is by no means the least. The central thesis of the novel, *Guardian Angel*, by Oliver Wendell Holmes, who coined the name "anaesthesia," is that characteristics of persons long dead may enjoy "a kind of secondary and imperfect, yet self-conscious life. . . . a co-tenancy in the bodies of their descendants. . . . This body in which we journey across the isthmus between the two oceans is not a private carriage, but an omnibus." We can only wonder how much, and whether for good or for bad, Jackson was influenced by his ancestral spirits. We should remember that Plymouth, where the Pilgrims landed, Salem where witches were hanged, and Boston the home of Harvard University and of Christian Science, are all in Massachusetts. Jackson owed much to his environment. Boston, the Hub city, was a center of intellectual and industrial activity affording a fertile field for professional work and an opportunity for contact with eminent men in every walk of life.

In him, however, we are most concerned with the effect of germ variation. He had a superiority complex and lived in a state of exalted ego. All of his professional life he was handicapped by a mental quirk. It was distinctive, and set him off from his fellows. The Hon. Amos Kendall, once postmaster general of the United States, in exposing the fallacy of Jackson's claim to the discovery of the telegraph, said: "I never met with a case of such reckless disregard of the truth as this

*Jefferson is only a short distance from Athens, the site of the University of Georgia.

of Dr. Jackson's. The only explanation which can be given that shall not implicate his moral character is monomania; and to this misfortune I have been willing, with many of his friends, to attribute his conduct, provided I may have the benefit which is usually accorded to the sane, of protection against the insane." The mental quirk drove him into repeated controversy. It was accentuated with advancing age and is manifested to a superlative degree in his undying hatred of Morton. To crush Morton and to establish his own claim to the discovery of anesthesia became a consuming passion which monopolized his time and energy. Insanity was the final result of a progressive mental deterioration. Alcoholism, whether the cause or the effect of his mental state, had its part in a vicious cycle from which he could not escape. His derangement was marked by ideas of grandeur, as the conqueror of pain, and of persecution. At first his claims had a modicum of factual basis, later they could be justified only by the wildest flight of the imagination. His claim to the discovery of the circulation of the blood could have emanated only from a diseased mind which had lost discriminating sense and reasoning power. Although himself convinced, he could not convince the world of the justice of his manifold claims to discovery. To prove his rightness and his righteousness he became a crusader and a fanatic. In the cause he battled at home and abroad, in the Federal courts and in Congress. He became a national and an international figure.

What difference does it make whether psychiatrists diagnose his condition as schizophrenia, paresis, mania or something else? Would his Wasmann reaction have been four-plus? Dr. W. Franklin Wood, director of the McLean Asylum, has refused to give us any information about the diagnosis and the clinical course of Dr. Jackson while he was a patient in that institution. In a letter of September 11th, 1945, Dr. Wood writes: "In reply to your letter concerning information about Dr. Charles T. Jackson I wish to say that I have had similar inquiries before and the trustees have instructed me that this information should not be given out. I am sorry I cannot comply with your request."

If Jackson was mentally irresponsible and incapable of distinguishing right from wrong, as we believe he was, censure of him should be tempered by charity and by a more sympathetic understanding. We should like future generations to see him in a light that is somewhat softer and a little kinder than has been accorded him.

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THE TREATMENT OF THE DIARRHEAS

(J. Gerendasy, Elizabeth, in *Jl. Med. Soc. N. J.*, Feb.)

The general principles governing the treatment of all diarrheas are:

1. Rest in bed permits a period of starvation 24 to 48 hours, decreases peristalsis, facilitates parenteral treatment and conserves energy and nutrition. If the diarrhea persists over 48 hours, despite rest, diet and sedation, the diarrhea is probably of organic origin.

2. Diet should be non-stimulating and non-irritating, easily digested, leaving little residue; have sufficient calories, proteins and vitamins after control of diarrhea and should contain no milk.

3. Specific measures: a) Parenteral (intravenously preferred) fluids and salts for two or three days. b) Plasma protein, 15 to 30 grams daily or more. In patients with hemorrhage, blood transfusions (200 to 250 c.c.) repeated q. 2 or 3 days. c) Heat to abdomen (turpentine compresses) q. 2 or 3 hours.

4. Drug therapy: a) Antispasmodics such as tincture of belladonna (10 min. t.i.d.) or deodorized tincture of opium (10 min. q. 4 h). b) Sedation—phenobarbital gr. ½ t.i.d.; or morphine gr. ¼ with atropin gr. 1/150. c) Calcium gluconate 10 c.c.; 10% intravenously (to replace calcium loss and relieve intestinal spasm). d) Large doses of vitamins (B complex, haliver oil, ascorbic acid, nicotinic acid), and iron. e) In indicated cases, sulfasuxidin, sulfaguanidin, sulfathiazol—15 grains q. 4 h. after initial 30-grain dose. f) Kaolin (Kaomagma) is occasionally beneficial, half-ounce q. 4 h.

PENICILLIN FOR ULCERS OF LEG TREATED BY PINCH GRAFTS

(R. Nomland & E. G. Wallace, Iowa City, in *J. A. M. A.*, Mar. 2nd)

Failure of skin grafts to take in infected ulcers of the leg is apparently caused in many cases by the surface infection with beta hemolytic streptococcus and hemolytic staphylococcus aureus.

Penicillin, intramuscularly, before and after grafting, has proved useful in destroying this surface infection.

The use of penicillin resulted in success in nine cases of such ulcers.

We would recommend the routine use of penicillin intramuscularly before and after skin grafting in cases of ulcer of the leg that are treated by pinch grafts in which the surface infection is caused by the cocci named, and it could probably be used with benefit for all ulcers, irrespective of the nature of the surface infection.

The Ophthalmologist and Extraocular Conditions*

CLAY W. EVATT, M.D., Charleston, South Carolina

MANY VOLUMES could be written under this title. I am also fully cognizant that a lengthy dissertation at this time would be malapropos. Rather I would point out to you the broadening field of ophthalmology, you judging for yourselves the mutual helpfulness and interdependence between ophthalmology and your own several practices. Indeed, no specialty has a right to exist unless it keeps itself intimately related to medicine as a whole. The specialist of today is not the man Charlie Mayo described as one who knows more and more about less and less, but rather a man who knows more and more about more and more. To think otherwise is to relegate oneself forever to the past. I can think of no field in medicine with which ophthalmology is not definitely concerned.

In the time allotted, one can treat only of conditions mutually most ordinary to us because we see them every day.

Most general men are also obstetricians, and the accoucheur who is aware of what changes in the eyegrounds connote is several weeks ahead of his brother who waits for hypertension and urinary findings to know what is happening to his patient. Here in the eyegrounds of the pregnant woman we see in nine months all the changes which normally occur in the life span of an octogenarian. Then, after the womb has expelled its contents we may observe pathological changes in retrogression step-by-step back to normal which, of course, we cannot do in the aged.

Much has been written and said about retinal arteriolitis as illustrated classically in the toxemias of pregnancy and in syphilis. The condition has been discussed under several groupings with further divisions and subgroups—a quite confusing state when one does not put a great deal of time on the study of eyegrounds. I am glad to say that the American Society of Ophthalmology has a committee now at work standardizing this group business. I am sure that when they report one standard grouping which all can follow without confusion, eyeground studies will become more popular with medical men generally and therefore much more used in daily practice.

A word here for those who treat syphilis. While giving heavy metals eyeground studies should be frequent. Vascular and nerve head changes should be watched and vision tested. Visual fields should

be taken before each dose of tryparsamide. If there is beginning constriction above and below; that is to say, if the field begins to narrow horizontally, no more tryparsamide should be given. Some authorities say that tryparsamide, being a pentavalent arsenical, is quite deadly to the optic nerve and should never be used. They suggest a trivalent drug, e.g., mapharsen.

DIABETES

As diabetes is on the increase the internist and ophthalmologist should go hand-in-hand. So many times patients come to the ophthalmologist wanting new glasses. Examination reveals wrinkling of Decemet's membrane, accommodation paresis due to lens changes, and glycogen deposits on the ciliary body. Five-tenths per cent of diabetics have Argyll Robertson pupil entirely unassociated with syphilis. Under fifty-five years of age cataract is more frequent among diabetic than among non-diabetic persons. Refractive changes are frequent due to altered refractive index of the lens. The lens changes are due to salt retention and osmotic interplay following changes in the blood sugar content. The changes in refraction are toward myopia as the blood sugar rises and toward hyperopia as the sugar decreases. Sudden changes toward hypermetropia after insulin injection have been reported. Retinal hemorrhages, exudates, depigmentation of the iris, iritis, optic nerve atrophy and homonymous hemianopsia are other diabetic manifestations of importance both to the general physician and the ophthalmologist.

XANTHOMATOSIS

Xanthelasma observed by the ophthalmologist as a soft, chamois-like, yellow patch on the eyelids, symmetrically placed and superficial, is indicative of more serious metabolic involvement. The tuberosa form of the disease may be associated with cardiovascular, liver, or pancreatic damage. The disseminate form may be associated with diabetes. In either instance cholesterol metabolism is upset. Cholesterin crystals may be found in the aqueous, the vitreous, and other ocular tissues; in arcus senilis, and in degenerative lesions of the choroid and retina. In all conditions of xanthelasma blood cholesterol studies should be made.

HEAD INJURIES

We are told that we have daily in this country twenty-four hundred auto accidents. With the ex-

*Presented to the Forty-seventh Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, held at Richmond, February 25th and 26th.

panded motor traffic which we anticipate in the near future it behooves us to think of head injuries. These injuries vary from simple concussions to fractures with loss of brain tissue. Neurologically these cases are very interesting and deserve meticulous study. Though the problem of surgical intervention is primarily one for the neuro-surgeon the solution is greatly aided by knowledge and recognition of ocular manifestations. Indeed, without these studies the surgeon proceeds as one setting sail on an unknown sea without chart or compass, with little more than intuition to guide him, and lucky is such a man who does not land on the rocks. Adequate consideration of the ocular manifestations of head injuries would make a great book. Suffice it to say—papilledema usually begins three to eight days following the accident. In head injuries the blood in the neighborhood of the disc is more manifest, and the exudate larger and more marked, than in papilledema of cranial neoplasm. Hemorrhage into the sheath of the optic nerve is not uncommon; the pupils are inactive, and two or three weeks later optic atrophy may set in with quadrant loss of vision. Symmetrical quadrantic defects are present. Absolute scotomata in the remaining portion of the fields indicate injury to the crossed and uncrossed fibers at the chiasm. There is pallor of the disc. Traquair says that defects occurring as a result of injury are absolute and have steep edges. If the chiasm is injured there may be complete blindness on one side and a quadrantic defect on the other.

Delayed blindness following accident has not had enough attention drawn to it. In this condition optic atrophy slowly supervenes in an accident in which the skull has sustained injury, generally in the frontal region. The patients seem to regain their usual health; then three, four or even five years later they notice a diminution of vision. The ophthalmoscope reveals partial optic atrophy which may become so extreme as to cause almost total blindness. In these cases the fields show steadily increasing concentric contraction. In all head injuries early and repeated examinations should be done, not only to keep informed on the progress of the case, but to rule out preexisting contributing factors which may be helpful later from a medico-legal point of view. Repeated fields and spots are of inestimable value as soon as the patient is able to coöperate.

HEADACHES

Sixty per cent of all people visiting the ophthalmologist complain of headache. Every year or so we read of some brilliant research into the cause of this, crippling symptom, yet much remains to be done. The ocular causes of headache are the most difficult to understand. This headache is a reflex pain. It is believed to be pro-

topathic and is influenced directly by the optic thalamus. The dull, bilateral, diffuse pain suggests a form of myalgia rather than neuralgia. Children as young as four and five years are brought to the oculist with headaches due to errors of refraction. Children younger than this seldom complain of headache. Headaches become more frequent at school age, adolescence, and again in midlife as presbyopia sets in. Old age is usually free of headaches. John Wesley is quoted as saying: "I am strong at eighty-one as I was at twenty-one but abundantly more healthy, being a stranger to the headaches and other bodily disorders which attended me in my youth."

Ocular headaches may be due to retinal irritation, organic diseases or eyestrain.

Retinal irritation is brought on by sun glare, by over-study as seen in serious-minded students, too much close work causing retinal fatigue. Children whose hair and skin turn darker as they grow up have retinae quite sensitive to light. Their vision improves as they make the change. Tinted lenses are a source of great comfort to these people.

Organic diseases, as conjunctivitis, iritis, glaucoma, retrobulbar and neuro-retinitis, are often manifested by headache.

Blurred vision, discomfort, fatigue, tenderness of the eyeball to touch, headaches, nervousness and indigestion may all be occasioned by eyestrain. In this condition the ophthalmic division of the trigeminal nerve is affected. The muscles of accommodation are the peripheral cause of eyestrain. Of those who are blind from birth sixty per cent are free of headache. Only thirty-one per cent of the seeing are free of headache. Among the blind, migraine headache is only half as frequent as among the seeing. It is observed that one-eyed persons infrequently have headaches. They do not strain the eye in the act of fusion. Sixty per cent of ophthalmic patients have eyestrain—eighty-six per cent due to refractive errors, the rest to muscle imbalance, iritis, glaucoma, retinal irritation, uveitis, choroiditis and congestive disturbances of the lids, conjunctiva, or lacrymal apparatus.

It is remarkable that the small amounts of ametropia produce the greatest discomfort. In the large errors of refraction the patients do not struggle to overcome their disabilities and so ciliary strain is not produced, whereas in the smaller errors the patient is all day long trying to compensate for the abnormal ciliary action.

Allergy,avitaminosis and foci of infection, all these and many more systemic conditions may cause definite eye changes. The more highly specialized we become the more interdependent we are and greater is the opportunity for mutual helpfulness.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

A CIVIC DISGRACE

THE FISCAL YEAR of the government of the Commonwealth of Virginia covers the period from July 1st to June 30th. The State Board of Corrections has just issued its report for the first half of the present fiscal year—from July 1st to December 31st. During that six-months period, 40,618 persons were placed in jail in Virginia. Of that number, 18,709 were jailed for drunkenness, or for being drunk and disorderly. The two categories constituted 46.06 per cent of those jailed for all causes.

But I infer that the figures do not include those charged with violations of the law with which alcoholism was a concomitant. Driving an automobile while under the influence of alcohol is not, for example, included in the figures above. And there are doubtless scores and perhaps hundreds of individuals arrested and incarcerated who are charged with other violations of the law of which alcohol may be the cause.

It is unphilosophic merely to speculate about beverage alcohol as a factor in criminal behaviour, but one should not be regarded either as reckless in the use of figures or as being fanatically anti-alcoholic for expressing the opinion that alcoholism will cause at least 50,000 persons to be jailed in Virginia by the end of the fiscal year on June 30th. That large number means an average of 500 individuals for each of the 100 counties in the Commonwealth.

There are many so-called A B C liquor stores throughout Virginia. In such stores alcoholic beverages are sold in sizeable packages. The stores were brought into being by legislative enactment consequent upon repeal of the prohibition law for the purpose of instituting a more effective method of preventing alcoholism—so said the advocates of the sale by the government of alcoholic beverages. Who believes the unrestricted sale of alcoholic beverages by the government has any tendency to cause people to make less use of such beverages? The government is interested in making such beverages easily available to those who would drink them. And the government encourages, rather than discourages, alcoholism in order that it may collect a large revenue from the operation of its saloons.

In North Carolina only 25 of the 100 counties have A B C stores. I recall no A B C store in any county west of Durham. But one would undoubt-

edly be mistaken in assuming that no citizen west of that county drinks whisky.

From the AB C stores in 25 counties in North Carolina in 1945 the sales amounted to \$28,707,-947.53. One cannot tell how many Carolinians were brought into the court room and were subsequently jailed because of their alcoholic indulgencies. In the year 1938 the sale of intoxicants by A B C stores in North Carolina amounted to only \$6,839,-645.65. The figures are quoted from a recent editorial in the *Raleigh News & Observer*, from which one easily infers that the editor looks upon the A B C stores in North Carolina as proffering prohibition in most ineffective fashion.

Can one think of the government, any unit of it, as engaged otherwise than in criminal activity in selling to its citizens for the purpose of obtaining revenue a substance that is toxic to all forms of life? Along with the citizen whose arrest is caused by the intoxicating effect of alcohol should also be brought to the bar to make answer the government's agent who supplied the citizen with the poison.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

DOES YOUR HOSPITAL NEED NURSES?

THIS QUESTION has been answered in the affirmative when asked promiscuously over the state. This article is by a person who has taught in five different training schools, continuously, since 1925. It has been evident to him that this scarcity of nurses was inevitable since 1930, unless some people could be persuaded to look through a hypermetropic eye at the picture. Much has been said and much has been written, but as far as the individual hospitals are concerned, nothing has been done about it.

Two plans are hereby outlined that will relieve the situation and, in the judgment of the writer, will increase the opportunities for young women to become nurses; and, certainly, increase the prestige and practice of the combined nursing profession, which today are losing, in the estimation of the writer, over a million dollars here in the state of North Carolina.

Plan I.—All hospitals of 25 beds approved by the American College of Surgeons and the American Hospital Association to institute a training school with a training period of 18 months, the students to be paid sufficient money, plus keep, to insure applications in ample number.

During this 18-months period the student to do work in the hospitals enough to justify the hospital in paying them their small stipends and providing living quarters, uniforms and board. The

class period to be practically equal to the standard which training schools now require for 12 months, special attention being given to anatomy, physiology, pathology and the art of nursing. Only high-school graduates should be accepted. At the end of the 18-months period, should these nurses desire to go on and receive their R.N., the present standard training schools be encouraged to give them their last two years of training. The Nurses Educational Board should be urged to give the nurses one year's credit toward the R.N. degree.

When these girls finish their 18-months training, the hospitals and the doctors should not recommend the same fee for them as for graduate nurses. This will encourage the average girl to go on with her education. For, if she has been thrifty, she may have saved enough to pay her tuition for two years. The standard training schools would also be benefited by having some place to call upon for replacements, for it is well known to all those who conduct training schools that there is considerable loss during the freshmen year, which works hardship on the junior and senior classes.

These 18-months applicants who do not marry, and who continue in the nursing field, will fill a great need because "the poor we have with us always"; and a much more capable nurse is made by the discipline and teaching for 18 months than from a few hours of instruction by the American Red Cross; or purely from experience, unsupervised and untaught, on the halls of the hospitals. *They, at least, would have been taught ethics. They would have been taught that they are not graduate R.N.'s and are not capable of rendering the quality of service which entitles one to the remuneration which an R.N. justly receives.* Yet, they would have been taught enough so that they could make a livelihood in case they did not feel like continuing their training, and be of immense help in caring for the sick.

Plan II.—This is for approved hospitals, particularly those of 50 or more beds, to open training schools with 4-year courses, their standard requirement for entry being the high-school diploma. The additional year is provided for allowing more practical nursing, in order that nurses' aides and maids, practical nurses, etc., who are too little trained in the technique and the ethical principles, might be replaced in the hospitals. The salaries heretofore paid these unsatisfactory employees would go to relieving these students of tuition fees, thereby creating a wonderful opportunity for the poor girl to get a very valuable education.

If one is making her own way and has sufficient income for some of the luxuries of life, four years is not too long to ask her to go to college, as it were; for it is, generally speaking, more profitable, pecuniarily, for a young lady to be an R.N. than

it is for her to have an A.B., an A.M., or a B.S. degree. A college education is not near so valuable from the standpoint of making a livelihood as a course in a nurses' training school.

The Nurses Education Board could in nowise feel that either one of these two plans is a lowering of their so-called standard in the nursing training. Only selfishness on the part of the graduate R.N. could cause fault-finding with either one of these two methods. There will always be a place for a good nurse; as well as a good doctor, a good preacher, or a good lawyer.

It is the responsibility of the nursing profession to provide adequate nurses for the sick citizenship of this country, just as it is the responsibility of the medical profession to provide doctors in sufficient numbers to take care of the sick of the nation. Both of these professions have failed miserably within the last 10 or 15 years. This failure has been due to the do-nothing-about-it attitude of the rank and file of doctors and the rank and file of graduate nurses.

It is now the eleventh hour. Let the hospitals open training schools and the doctors open medical schools and gain back for themselves that admiration, love and respect that the lay public formerly had for both professions. There should be no place in these professions for selfish, mercenary dictatorship.

Every great reform requires martyrs to get it started. Who will be the martyrs in the medical profession and in the nursing profession, in order that this great reform that is so badly needed and so earnestly requested by the sick of our country within North Carolina, South Carolina and Virginia, may be carried through?

DENTISTRY

J. H. GUION, D.D.S., *Editor, Charlotte, N. C.*

MANIFESTATIONS OF DISEASES IN THE MOUTH

THE PHYSICIAN is concerned with the teeth as foci of infection which may contribute to the ill health of his patient. The dentist looks at the mouth of the patient primarily from the point of view of repair.

Such a clear and accurate statement of the different approaches of the dentist and the physician to the problem of disease discovery, augurs well for the value of the paper by a teacher of dentistry.¹

The physician looks at the tongue, notes the condition of the teeth, gums and palate; at the lips for the evidences of congenital syphilis and of riboflavin deficiency. Muscular tremors and incoordinations of the tongue may indicate central

1. P. E. Boyle, D.M.D., Philadelphia, in *R. I. Med. Jl.*, Feb.

nervous system or thyroid gland disturbances. Hypertrophy of the papillae may give rise to the condition called black or hairy tongue, apparently unrelated to nicotinic acid deficiency in man. A partial or complete atrophy of the papillae is found in the smooth tongue of pernicious anemia. Rather similar appearances may occur in pellagra.

The palate may be the site of gumma, tuberculosis, or tumors of the mucous glands. Metallic deposits in the gums may be the first indication of lead or bismuth poisoning. The gums and oral mucous membrane may show early signs of Addison's disease, scurvy, or Vincent's disease. Koplik's spots may be the earliest showing of measles and the mucous patches of secondary syphilis may be first recognized in the mouth. Leucoplakia of the oral mucous membrane must be viewed with suspicion as a possible site of cancer. Irritations from tobacco and from rough teeth or dental appliances have an important place in the etiology of leucoplakia and of carcinoma.

Tooth decay, unless advanced, is likely to escape the attention of the examining physician. Especially gold crowns and bridges arouse suspicion of foci of infection. Porcelain restorations, which may be quite as great a source of danger to the health of the patient, will probably not be noticed. Loosening of the teeth and pockets about the teeth from which, upon pressure, pus exudes will indicate a late stage of pyorrhea alveolaris. Loosening of the teeth due to disease in the underlying bone is not uncommon.

No clear correlation has been made between good health and immunity to dental caries. Cleaning and polishing teeth to prevent tooth decay has proven to be of limited effectiveness. Diet has been shown to be of great significance during the formation of the teeth. Tooth decay, however, attacks the most perfectly formed teeth almost, if not quite, as readily as it attacks hypoplastic teeth. Sugars and starches have been implicated both for prematurely satisfying the appetite by supplying calories without the proteins, minerals and vitamins necessary for a well-balanced diet and for promoting acid production by bacteria on tooth surfaces, thereby dissolving the enamel.

The majority of dentists feel confident that early detection of tooth decay, complete eradication of the affected tooth structure and replacement by a filling is the only effective method of dealing with dental caries.

Much of the responsibility for treatment of mal-development and mal-arrangement of the teeth has been delegated to orthodontics. The use of mechanical forces in stimulating the growth of bone and thereby moving the teeth into normal alignment, has reached a high point of clinical application.

In most instances a large gaping wound left by the removal of a tooth heals without complications. The use of the blood plasma products promises means toward control of postoperative hemorrhage and promoting repair. The ends of root-treated teeth may be amputated, cysts and tumors removed, etc. The plastic surgeon is often concerned with the face and many plastic surgeons were primarily trained in dentistry.

Periodontal disease is, next to caries, the greatest cause of loss of teeth. The gingival attachment is a point of low resistance to infection. Gingival inflammation leads to detachment of the soft tissues from the tooth, pocket formation, absorption of alveolar bone and eventually, loss of the tooth.

The dentist removes the calcified deposits, corrects the mechanical defects which allow impingement of food, relieves the excessive occlusal forces and institutes message and rigorous cleanliness on the part of the patient and in a fairly high percentage of cases the disease becomes arrested.

The dental practitioner sees patients who are, generally speaking, in good health. He may be the first to detect signs of diabetes, leukemia, carcinoma, etc., in the oral cavity.

All this argues strongly for the most intimate and cordial relationship between physicians and dentists, that their patients may be given the best health service of which we are capable.

THERAPEUTICS

J. F. NASH, M.D., *Editor, St. Pauls, N. C.*

TREATMENT OF COMMON DERMATOSES

A COMPLETE knowledge of all dermatologic remedies, this skin specialist¹ tells us, is impossible and unnecessary. He says he could relieve a good percentage of his patients with salt, vinegar, boric acid, corn starch, water and petrolatum.

He goes on:

Baths have value in cleansing and soothing the skin. When soap is contraindicated, corn starch or a combination of oatmeal and sodium bicarbonate—the “colloid bath”—should be used. Bath water should not be hot, rather about 98° F.

There is nothing more soothing to an acutely inflamed surface than wet dressings of solution of boric acid, 2%, or aluminum acetate, 2 to 8%. These should not be allowed to dry on the skin, and should not be used more than 24 to 48 hours, for they cause maceration.

Powders are cooling and drying and provide an excellent method for applying drugs to the skin. Mineral substances—talc, zinc oxide, calcium carbonate, magnesium carbonate and kaolin—are best. They are not to be used on oozing surfaces except

¹ J. G. Downing, Boston, in *Medical Clinics of N. Amer.*, Sept., via *Digest of Treatment*, Mar.

when alternated with warm, wet dressings. A redened healing area may be protected by borated talc. The addition of sulfur may be of value in acne. Powders should be used on moist feet and are good prophylactics against some forms of fungus infections.

Lotions—suspensions of powders—are of value in treatment of congested and oozing surfaces. Most popular is Calamine Lotion, N. F. VII, in which a colloidal clay called bentonite, acts as a medium for suspending the powders in the liquid by producing a gel. Addition of Neocalamine Lotion, N. F. VII, sufficient to match the patient's skin pleases the woman patient without loss of value. Addition of phenol, 1 to 2%, and menthol, 0.25 to 0.5%, relieves pruritus. Menthol should be dissolved in a small quantity of alcohol before being incorporated into the lotion.

When acute inflammation has subsided an oily preparation or a paste is indicated. As too much zinc oxide is apt to cause folliculitis on a hairy surface, he prefers:

R Zinc oxide	2.0
Starch	13.0
Petrolatum	15.0
Solution of aluminum acetate.....	10.0
Zinc oxide paste	30.0

Salicylic acid, sulfur and sulfonated bitumen to be added to pastes when indicated.

Pastes are used usually after application of a lotion. To avoid writing of two R's it is well to use a mixture of lotion and oil as a liniment or emulsion, of which Calamine Liniment, and the skin colored Neocalamine Liniment N. F. VII, are excellent examples. When antipruritics are added to these, they must be reduced greatly in amount to avoid irritation, due to prolonged action of the oil. Menthol, resorcin and camphor may be added.

Liniments are ideal in early psoriasis, lichen planus, pityriasis rosea, the various erythrodermas, and the subacute stage of contact dermatitides. In the pruritic type of psoriasis:

Solution of coal tar	12.0
Olive oil	
Bentonite, 6% in lime water.....aa	50.0
Lime water	10.0

Liniments other than those of the National Formulary are best made with an electric mixer.

In asymptomatic eruptions there is no need of local applications. In pruritic eruptions use watery or alcoholic solutions containing 0.5 to 1% of menthol.

It is in the use of ointments that complications arise. Having no evaporating properties they cause congestion and irritation. When properly used, they are of extreme value. Also there is danger of absorption of the drug and while the patient is using

an ointment he dislikes to mingle with his fellows. Salicylic acid in amounts greater than 2% breaks down cold creams. Cetyl alcohol is a greaseless, good emollient, and renders the skin velvety. Elkonite as a colloidal clay ointment base is fairly adherent but may be removed readily by gentle washing with water. It is used in 15% concentration as a gel. Triethanolamine is an excellent emulsifying agent used for many years in a cleansing cream for acne.

Benzyl benzoate has been found to be effective against pediculosis capitis, and has been used for seven years in treatment of scabies. A concentrate is made with 2 Gm. of triethanolamine, 8 Gm. of oleic acid, and sufficient benzyl benzoate to make 100 c.c.

Concentrated sulfur pastes are of value in pustular psoriasis, infectious eczematoid dermatitis, rosacea, and scabies. Incorporated with white or yellow petrolatum in concentration of 30% in cold, 40% in warm weather, it is spread on thinly.

In acne rosacea and impetigo contagiosa:

Salicylic acid	2.0
Precipitated sulfur	2.0
Petrolatum	qs ad 30.00

Calcium gluconate intravenously is of great value in severe urticaria and a few acute conditions, but after a few injections calcium can be given by mouth with the same satisfactory result.

Autogenous vaccine and toxoid should be tried in a stubborn case of acne or recurrent staphylococcal infection of the skin.

Parenteral administration of toxicodenarum as a prophylactic in poison ivy dermatitis may have some value. It has none as a cure. When one feels he must give an injection—either for the psychic effect or for want of something to do—the safest procedure is injection of whole blood. It sometimes is of value in extensive dermatitis venenata, urticaria and psoriasis.

Of hypnotics, paraldehyde and chloral hydrate are the drugs of choice. Combinations of aspirin and codeine give a sense of relief and may be useful. In pruritic eruptions subsequent to phenobarbital therapy avoid phenol in local applications.

Sulfathiazole is effective in treatment of infections of the skin due to streptococci and staphylococci. The dangers of use of sulfonamides in the practice of dermatology outweigh their possible benefits.

Penicillin's greatest use is in the treatment of syphilis.

Vitamin A should be tried in follicular hyperkeratosis, keratosis pilaris, pityriasis rubra pilaris, and loss of skin tissue as from burns and ulcers.

Favorable results in acrodynia are said to result from administration of thiamine. Riboflavin has a place in the treatment of the syndrome of chelitis,

perleche, the brilliant-red, smooth tongue, and the scaling and plugging of the seborrhoeic area of the face. Nicotinic acid has been a life-saver in pel-lagra.

Vitamin C has been proved of value in certain types of keratotic lesions, petechial hemorrhages, and failure of wound healing; vitamin D in psoriasis, acne vulgaris, pemphigus and scleroderma, in Downing's hands has been a failure. It stimulates healing in x-ray burns.

Endocrine therapy in cutaneous diseases he thinks has tremendous possibilities. Remarkable recovery was seen after use of 300 mg. of testosterone propionate, when sulfonamides, penicillin and vitamins had failed in a young girl prostrated by a disseminated lupus erythematosus. Only in carefully studied cases of cutaneous diseases should hormones be used, for their indiscriminate use may lead to disastrous results.

Physical therapy, light, x-rays and radium, play an important role in dermatologic therapy. Un-sightly pigmentation may follow their use in acute eruptions, and all physicians are cognizant of the severe injury to healthy tissue which results from their misuse.

HISTORIC MEDICINE

ACUTE RHEUMATISM IN MILITARY HISTORY

J. A. Glover, in *Proc. Royal Soc. of Med.* (Lond.), Jan.

It was the great Thomas Sydenham, a "Puritan captain of horse," "a trooper turned physician" who, in 1683, distinguished acute rheumatism from gout and separated the acute from the chronic forms. Nineteen years before this de la Martiniere had described gonorrhreal rheumatism, a disease which has accounted for some of the so-called acute rheumatism in the earlier estimates, for up to 1860 and later the military attack rates of venereal disease were often incredibly high.

The epidemiology of rheumatic fever has long suggested its specifically infectious nature, and in view of its age incidence, and the fact that its onset is traditionally favoured by exposure, wet clothing and privation, it would seem likely to be prominent among those diseases which so often take a toll of armies in the field far greater than do wounds or death in battle. But this is not the case; its role is a much more modest one. Even when the disease was far more common and severe in civil practice than it is today, its incidence in armies in the field was much below expectation. Nevertheless rheumatic fever still causes no small proportion of medical casualties.

For the earliest statistical information as to the incidence of acute rheumatism in a British and

allied force in the field we are indebted to Sir John Pringle. The "Pragmatic Army" leaving its winter quarters in Brussels in February, 1743, marched into Germany, and was cantoned at Aachen and Julich, after experiencing its share of a widespread epidemic of influenza, and on May 17th encamped on the Maine in an open and healthful country. After three weeks of hot days and cold nights the "flying hospital" at Nied had 250 sick. When the number had reached 220 the distempers had been classified and 51 were suffering from "rheumatic pains and more or less of fever." The attack rate was 3.5 per 1,000. Later in the summer the disease decreased and became insignificant compared with dysentery and other intestinal diseases.

It was in the Dettingen campaign that Pringle persuaded the Earl of Stair to propose to the French C. in C., the Duc de Noailles, that hospitals should not be fired upon. The Duc readily consented and ordered that his artillery should not fire on the village of Freckenheim in which the English field hospital was then lying with some 1,500 sick. This agreement was honoured by both sides throughout the rest of the campaign, thus anticipating the Red Cross movement (Henri Dunant) by 121 years.

The writer has found no military records of rheumatic fever in the Napoleonic wars. Even in the Walcheren expedition of 1809, in which conditions might have been thought to favour a high incidence, and though 332 out of every 1,000 died of disease compared with 16 per 1,000 killed or died of wounds, no references are found to rheumatic fever, so completely overshadowed by malaria and typhus fever.

In the Crimean campaign, begun in the autumn of 1854, there was exposure to frightful weather and much overcrowding, and epidemics of cholera and typhus swept the armies, but one finds only two or three casual references to rheumatic fever. The statistical returns show the case-mortality for the cases of chronic rheumatism, 6%, was higher than that for acute rheumatism, 4.3%. For the three months, December, 1854, January and March, 1855, the case mortality of chronic rheumatism was 19%, 12.2% for acute rheumatism. More than three-quarters of all the deaths occurred during the fearful weather of the three months, this following close upon the great storm of November 14th-15th, in which eight ships bringing warm clothing, medical stores and food, sank and nearly all tents, hospital and other, and even huts, were blown down.

As to the American Civil War incidence of acute rheumatism the only figures worthy of credence seems to be the Confederate case-mortality from a series of 1,984 cases "with known results"

in the Chimborazo Hospital, Richmond. The observations of the authors are admirable. An acute observation is that "acute rheumatism shows in its monthly rates a greater prevalence in that period of the war during which new levies were sent to the field than later when the levies had become inured to the hardships of active service."

The South Africa War (1899-1902) was characterized more by heavy marching on half rations than by severe battle casualties. Admissions for rheumatic fever were 6% of the total for all diseases and non-battle injuries, and during the whole war exceeding those for wounds. There was more rheumatism in the high and healthy climate of South Africa than in the mud of the trenches of 1915. Describing the march to Pretoria the author of the official military history writes [the heavily laden infantry] "averaged nearly 17 miles a day in blazing sun and bitter cold, swept now by hot and choking dust storms, now by rushes of hail, fording rivers and floundering through sand, with scanty food and shelterless bivouacs. Silence attended their marches, hunger, fatigue and discomfort their nightly sleeping places."

After four years of trench warfare (1914-19) Hay wrote, "acute rheumatic fever was not common among the soldiers in France." In Italy it was rare.

During and immediately after the first Great War the American military forces and the civil community shared in the great and continuous reduction in incidence and severity of rheumatic fever.

In the training centres occurred numbers of epidemics of acute rheumatism. A large group of susceptible age, suddenly put on a strenuous regimen, a rapid and continuous influx of new entrants, sleeping quarters overcrowded, one particular strain of *Streptococcus pyogenes* produced an epidemic of acute tonsillitis and, a little later, cases of acute rheumatism, often in a ratio of 1 to every 10 cases of acute tonsillitis.

All statistics relating to acute rheumatism are difficult of gathering but to try to compare "invaliding" in the various wars leads only to a morass of differing phrases and differing meanings of the same phrase. It is clear, however, that the rates have greatly diminished in the last 90 years.

Acute rheumatism, never acting a conspicuous part in military history, has always been an insidious foe especially to the recruit in training. Fortunately it appears an obsolescent disease in the Army as it is in civil life. This cheering impression of a rapid decline should stimulate our efforts finally to extinguish this Moloch of young life and health.

DERMATOLOGY

J. LAMAR CALLAWAY, M.D., *Editor*, Durham, N. C.

THE PRESENT CONCEPT OF THE TREATMENT OF SYPHILIS WITH PENICILLIN

THE following remarks are based on information presented at a conference of penicillin investigators under the auspices of the National Research Council and the United States Public Health Service, held in Washington February 7th and 8th.

Since so little specific information has been available to the general practitioner, this summary of the experiences to date of the coöperative agencies is set forth. Conclusions outlined in this discussion are in general the opinion of various investigators representing the coöperating civilian clinics, some Army and Navy installations, and certain of the United States P. H. S. Hospitals, but do not represent specifically the opinion of any one of them. The statements are brief and represent in general what is to be expected from the use of aqueous sodium penicillin by certain treatment schedules. Specific therapy for individual patients should be undertaken only after a detailed study of original articles.

EARLY SYPHILIS

Seronegative primary syphilis may be successfully treated with 95 per cent satisfactory results when 2.4 million units of sodium penicillin given intramuscularly at three-hour intervals for 60 injections over 7½ days, or by using 20,000 units intramuscularly every three hours for 120 injections over a 15-day period.

Seropositive primary syphilis may be successfully treated with 2.4 million units of aqueous sodium penicillin in the same dosages and in the same manner as seronegative primary syphilis with 90 per cent good results.

Seropositive secondary syphilis may be successfully treated with 2.4 million units of aqueous sodium penicillin as described above with 80 per cent good results.

All of the preceding results are based on a single course of penicillin therapy.

From preliminary studies it appears that the addition of 320 to 480 milligrams of mapharsen and/or 0.6 to 1 c.c. of bismuth subsalicylate in conjunction with the penicillin therapy may yield better results, although producing more reactions.

Penicillin in peanut oil and beeswax (POB) for the ambulatory treatment of syphilis is still in the investigative stage and should not be used by the average physician until further study. Experience so far, however, looks promising.

PENICILLIN TREATMENT OF THE PREGNANT WOMAN

Experience has shown that when pregnant women with early syphilis are treated with 2.4 mil-

lion units of aqueous sodium penicillin in dosages of 40,000 units intramuscularly every three hours for 60 injections over a 7½-day period, 97 per cent of new-born infants are free of syphilis. This remarkable feat has been accomplished without relation to the stage of pregnancy in which penicillin therapy was instituted. These favorable results obtained are particularly encouraging since without treatment almost all of the infants born of mothers with early infectious syphilis might be expected to have syphilis at birth or shortly thereafter. Furthermore, since penicillin therapy is relatively innocuous, the dangers of chemotherapy are obviated.

PENICILLIN TREATMENT OF CONGENITAL SYPHILIS

Experience has shown that when infants and children are treated with 40,000 to 60,000 units of aqueous sodium penicillin per kilogram over a 7½-day period, a serologic relapse of only 3.6 per cent may be expected. Only 2.6 per cent of infectious relapse has been observed in 191 patients treated by the schedule outlined.

PENICILLIN TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM

Preliminary experience has shown that when a minimum of four million units of sodium penicillin is given over a 10- to 15-day period, results are as good as or approach results obtained by chemotherapy or fever therapy. Prolonging penicillin therapy together with the use of fever therapy in conjunction with penicillin treatment may offer results surpassing either therapeutic regimen when used alone.

A variety of treatment schedules using penicillin alone or in combination with arsenic, bismuth and fever therapy in hospitalized patients as well as on an ambulatory basis are now in progress. Results of these studies and further observation of patients previously treated may alter the tentative conclusions drawn at this time.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

DRUGS IN THE TREATMENT OF PEPTIC ULCER AND HYPERSECRETION

THERE are few commonly encountered disease conditions on which we get more conflicting and confusing advice than on the medical treatment of peptic ulcer.

It is refreshing to read an article which shows that, whether or not the author¹ is right in every particular his mind is not confused, he believes in what he says, and he gives plausible reasons for the faith that is in him.

¹ Rudolf Ehrmann, New York, in *Amer. Jl. Dig. Dis.*, May, 1945.

In the treatment of peptic ulcer, drugs usually affect only the symptoms, which are caused chiefly by increase of gastric juice, causing in the ulcer cavity an increased production of a histamine-like substance which stimulates secretion and finally leads to hypertrophic gastritis.

Among the consequences are: Secretion in the empty stomach, protracted and continued after digestion of food, or overflow of the gastric juice into the esophagus, leading to soreness, pain and heartburn. *This discomfort is caused, not by HCl but by pepsin.* Drug therapy in the treatment of peptic ulcer is not the fight against HCl, but against pepsin. The following test shows the action of pepsin, clearly:

Unheated gastric juice is poured into one glass, into another gastric juice in which the pepsin has been previously destroyed by boiling. Thumb and index finger are rubbed together in both glasses. After a time a corrosive action can be felt on the skin of the fingers in the glass containing the unchanged pepsin.

When pepsin is rendered ineffective by neutralization, absorption, buffering or by evacuation of the gastric juice, the pain vanishes. In addition to the discomfort, there are characteristics severe and periodic pains, the result of inflammation at the margin and the base of the ulcer, and of pyloric spasm.

The objection to sodium bicarbonate is that it excites renewed secretion. However, this occurs only when given in exorbitant doses; otherwise it reduces secretion. This may be a protective secretion analogous to the abundant secretion of alkaline pancreatic juice which follows the intake of HCl. More important it is that the soda, taken as a dry powder or in solutions higher concentrated than ½%, may irritate the inflamed mucosa of the stomach with an active ulcer.

In doses of 2 to 3 level teaspoons a day it does not cause alkaloisis, even if taken regularly. In the stomach it immediately neutralizes HCl, and subsequently inactivates pepsin. The resulting CO₂ relaxes the pylorus and cardia. A rapid emptying of the stomach follows. CO₂ also has an analgesic effect. No larger distension results; therefore, no danger of ulcer perforation. It promptly relieves pain occurring several hours after meals or in the middle of the night.

If milk is given instead, the stomach will remain full, the secretion continue. A patient, overcome by sudden severe pain, without soda or food at hand, can "use his own soda." By enforcing vomiting movements, he can promote the passage of pancreatic juice into the stomach, and pain will cease.

Magnesium oxide and carbonate and calcium carbonate have practically the same qualities as

sodium bicarbonate on gastric secretion and pepsin. Besides, they have a "lining" and soothing action. Calcium carbonate has the stronger lining effect. It furthermore exercises an anti-inflammatory action. Magnesium oxide, in turn, adsorbs large quantities of gas.

Bismuth subcarbonate has no effect on HCl or on pepsin. It settles in the ulcer cavity, protecting it against gastric juice and food, and preventing formation of the histamin-like substance.

Belladonna and atropin are effectively only if taken one-half to one hour before meals. Belladonna drugs have an antispasmodic and analgesic effect. They delay motility and evacuation. Given together with alkalines, these remain longer in the stomach, prolonging the effect on neutralization and pepsin. Unless a slight dryness of the mouth is felt, there will be no effect on the gastric glands. These drugs have the widest safety-margin of any of the alkaloids used in therapy; the effect of even toxic doses can be controlled quickly by pilocarpin.

Gastric mucin, histidin and other drugs widely advertised today have no real advantages.

Tablets should be soft and easily crushable. Powders should not be sandy, and should be taken, like crushable tablets, in a suspension in water.

One gram of magnesium oxide neutralizes more HCl than any other substance. But, to neutralize 500 cc. of 1/10 N. HCl, we need two level teaspoons. In contrast to that fact, less than one teaspoon of sodium bircarbonate is needed for the same quantity of acid.

Colloidal aluminum hydroxide and aluminum silicate render pepsin ineffective through adsorption. They are peptized and gelatinized in the gastric juice, and have a soothing effect. They have a corrosive quality, perhaps the same as that of the formerly popular silver nitrate. They are not free from after-effects, and should not be taken by the patient on his own responsibility. The same is true for bismuth.

In contrast to aluminum and bismuth preparations all the alkalis and alkaline earths are perfectly harmless, if taken in the required doses and concentrations. They are not alien substances in the organism. Considerably smaller doses are needed to absorb HCl and, what is more important, to render pepsin ineffective immediately.

THE TREATMENT OF AGRANULOCYTOSIS WITH PENICILLIN

(Maj. E. W. Boland et al., in *Jl. A. M. A.*, March 2nd)

Ten cases of agranulocytosis, including the one here reported, have now been treated with penicillin: prompt recovery has occurred in every case. This represents a notable improvement in the treatment of the condition and allows for much greater optimism in prognosis than has heretofore been possible. In some of these 10 cases leukopoietic agents were used in conjunction with penicillin, but the current trend is to rely on penicillin alone.

Experiences to date indicate that penicillin constitutes the most potent remedy at hand for the prevention or control of the grave complication of agranulocytosis.

Since this paper was submitted for publication another case of agranulocytosis successfully treated by penicillin has been reported. Thiouracil had been given for hyperthyroidism the leukocyte count fell to 2,400 with 2 band cells and 2 segmented neutrophils. Treatment included a transfusion, liver extract and a total dose of 560,000 units of penicillin in four days, at the end of which time recovery was complete.

PEDIATRICS

E. L. KENDIG, M.D., *Editor*, Richmond, Va.

A PSYCHOPHYSICAL STUDY OF PROBLEM SCHOOL CHILDREN

THE PURPOSE of the study¹ was to attempt to discover reasons for the slow progress of a group of school children and, if possible, to recommend procedures for correcting. The subjects were 100 school children low in behavior or in learning capacity.

The physical examinations included height and weight records, observations for postural disturbances, glandular defects, malnutrition and hernia, in addition to an examination of ears, eyes, nose, throat, heart, lungs and abdomen; also included were hemoglobin determination, Wassermann test and intracutaneous tuberculin test. Two hours were spent in examining each pupil exclusive of the time spent in making the laboratory tests.

Every pupil examined presented two or more signs of physical abnormalities; more than half, five or more. Mentally defective children were found to "show a higher percentage of physical defects, notably scabies and impetigo."

A continued study would be necessary in order to determine whether or not there is a direct relationship between defective physical condition and learning ability. In the group showing an endocrine disturbance there is definite such relationship. Many of this group physically and chronologically matured, are mentally retarded. Others have been promoted to work beyond their mental years and capacity.

Treatment for physical defects should be provided by the family or by welfare agencies.

Special classes for the feeble-minded children would prepare these individuals to adjust to everyday demands, and would help them to develop to the extent of which they are capable. Those of less dull intelligence might be placed in a group for instruction on a somewhat higher level.

A remedial reading and spelling class for those of normal intelligence is recommended also. Reading techniques have been stereotyped to such a degree in the public schools that those who can

¹. W. L. Oliver & E. M. Stalnaker, *Morgantown, in W. Va. Med. Jl.*, Mar.

not benefit by the selected method have no recourse to other techniques, which might be a great aid in teaching normally intelligent children the fundamentals of reading and spelling.

A more thorough knowledge of child psychology should be required of members of the teaching profession. Slow learning does not necessarily mean inability to learn, but inability to read slows up learning. Many teachers do not recognize the handicaps of emotional maladjustments and personality factors which are at odds with normal comprehension and learning.

On reading, or listening to, what psychologists and psychiatrists say, many of us are able to understand little of what is being read or heard. Most of us will understand what these West Virginia doctors say as to the need for a better way of teaching reading and spelling.

I suffer and groan when I hear little ones spell coop, "c-o-o-p," instead of "c-double o-p." When they are so taught, how can they be expected to distinguish between a cooper, and a co-oper?

Also, it is gratifying to learn that little relationship was found to exist between physical development and mental capacity. It is rather astonishing to find impetigo and scabies listed as defects. A defect is something lacking; either of these disease conditions is something added.

That lack of thyroid secretion will prevent mental development has been well established for nearly a hundred years.

I have never believed that the seat of the intellect is in the tonsils or the appendix vermiciformis.

GENERAL PRACTICE

D. HERBERT SMITH, M.D., *Editor*, Pauline, S. C.

DICUMAROL IN ACUTE CORONARY THROMBOSIS

SINCE 1943 we¹ have determined prothrombin clotting times on most of the patients who had coronary occlusion by the method of Quick, using a modified thromboplastic reagent as described by Brambel. Other types of thromboplastins did not yield the desired sensitivity or reproducibility. Determinations were made in each instance on undiluted plasma and on 12.5 per cent plasma. Normals had previously been established for whole plasma of 12 to 14 seconds and for the diluted (12.5%) plasma, 85 to 100 seconds. It was noted that three of every four cases of coronary thrombosis exhibited an increased clotting tendency.

Following the initial prothrombin time determination, the first dose is usually 300 mg. The subsequent dose is estimated by the response. Deter-

minations are made only every other day because the maximum effect of any given dosage is obtained 26-48 hours after it is given. Should the clotting time for 12.5% plasma reach 400 seconds this is interpreted as a caution signal and future doses are governed accordingly. In a number of cases, after it has been learned that the patient is not a hyperreactor, the patient has been continued on dicumarol after discharge from the hospital, returning to the clinic twice a week for prothrombin determinations and succeeding doses.

One hundred and ten cases of coronary thrombosis with myocardial infarction have been studied. Sixty patients received the accepted treatment for coronary thrombosis; 50 received the usual treatment plus dicumarol sufficient to maintain their plasma prothrombin activity at 35 to 50% normal. The incidence of clinical embolism was 16% in the nondicumarolized group and 2% in the dicumarolized group. The mortality rate in the former group was 20%, in the latter group 4%.

We have observed an increased clotting tendency in most of our cases of acute coronary thrombosis, manifested by a decrease in the prothrombin clotting time of diluted (12.5%) plasma.

Dicumarol can be safely administered to patients with coronary thrombosis to disrupt this increased clotting tendency.

The incidence of embolism as a complication of coronary thrombosis has been significantly reduced in this series of cases by maintaining the prothrombin activity between 35 and 50% of normal during the period of active treatment and early convalescence—a period of six weeks.

Digitalization for congestive failure in coronary thrombosis increases the incidence of thromboembolic complications. This hazard may be nullified by the use of dicumarol in such cases.

Few toxic reactions have been noted in this series. The drug can be administered for an indefinite period without ill effects.

OTHER CONDITIONS MAY BE CONFUSED WITH AN ANGINAL SYNDROME

THE AUTHOR realizes that there is a tendency to overdiagnose diseases of the coronary arteries; that the laity, has fearful of heart disease, especially angina pectoris, has been somewhat victimized by the publicizing of this symptom-complex and its consequences, so that at present every ache or pain in the region of the heart is attributed by them to this condition.

Niehaus¹ goes on:

One's diagnostic reputation is not enhanced by assuring a patient that he has nothing to worry about, and to hear a short time later that this individual has suddenly died; so physicians play safe and express an opinion that the symptoms are more

¹ J. H. R. Peters et al., Baltimore, in *Jl. A. M. A.* Feb. 16th.

1. F. W. Niehaus, Omaha, in *Nebraska State Med. Jl.*, Jan.

or less due to a cardiac disorder. At times this statement by the physician is accompanied by a marked increase in the patient's symptoms; if the patient is a bit neurotic, it is apt to be disastrous to his mental state.

Experience justifies the assumption that doubtful syndromes, which bring to mind angina pectoris can in 99% of cases be considered non-cardiac. The physician must be willing to take a small risk in some cases. A careful consideration of these confusing conditions is very important. It is also embarrassing when such a serious diagnosis is made to have a patient later appear exhibiting his excellent state of health when the time element has proven the error in diagnosis. And also after a variable lapse of time a more venturesome diagnostician has refuted the original opinion. The aforementioned situations result in no injury except to pride and reputation; however, to wrongly label a condition as heart disease inflicts a serious injury on a patient. Many of these are more seriously ill than if they really had organic heart disease.

Of general factors important in differentiating the anginal syndrome from conditions simulating it time probably is most helpful. Cardiac pain is of short duration unless due to coronary occlusion. The latter usually is sufficiently characteristic to identify itself. If the suspected angina has existed for weeks, months or years, without other evidence of cardiac impairment it can usually be dismissed, and the longer the duration, the more certain that the pain is non-cardiac.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

THE PROSTATE GLAND IN MEN OVER FIFTY

ALL OF US realize that a great number of old men have enlargement of the prostate to the extent of obstructing the discharge of urine, and that a disquieting number of these enlargements are cancerous. All of us have desired to know what percentage of these enlargements are cancerous. The factors on which to decide what operation to perform in these cases has given us all concern.

An excellent Miami urologist¹ compiles helpful information and offers wise advice.

The problem divides into three parts: infection, benign hyperplasia and malignant tumor.

Infection of the prostate is common after 50; usually it is chronic and persistent. The colon bacillus and the staphylococcus, either alone or together, are the most frequent pathogens; streptococcus fecalis is often present. In this era of chemotherapy, gonorrhreal prostatitis has become uncommon. In many instances it is impossible to

¹ J. J. Nugent, Miami, in *Jt. Fla. Med. Assn.*, Mar.

demonstrate any bacteria by smear or by culture.

Prostatic massage remains the most efficacious treatment. Neither sulfonamides nor penicillin has any appreciable effect in more than a few cases of prostatitis.

In 25 per cent of men over 50 hypertrophy of the prostate develops and it becomes necessary to operate in 50 per cent of all the cases. Still more important, carcinoma is the enlargement in 21 per cent of the prostates which have been removed. *One in four men suffers from prostatic hypertrophy* with a 50 per cent chance that operation will be necessary. Of those men who have hypertrophy, one in 10 will have carcinoma. In a group of 100 men over 50, hypertrophy will develop in 24, and 12 will need an operation. Of the 12 prostates removed, three will be carcinomatous. Of the 88 men not operated on, carcinoma of the prostate will develop in 11. These facts show the importance of a routine rectal examination of the prostate.

Half of the patients with prostatic hypertrophy will not need an operation. Some will need treatment. Infection, residual urine, glycosuria, dehydration, constipation, nervousness and nervous disorders, exposure to cold, fatigue and many other factors may have a deleterious effect on an otherwise asymptomatic hypertrophied prostate. Many cooperative men can be carried along for months or years without operation. Many of these men would need to be operated on were it not for the fact that they succumb to some other disease before operation is necessary.

For that group of men who must be operated on—12 out of every 100 over 50—the prognosis has improved greatly in recent years. Elderly men have been taught to seek treatment before irreparable damage has been done. Physicians search for and recognize early hypertrophy of the prostate. Urologic instruments and technic have been improved. Safe intravenous fluids and whole blood have become available. The control of infection has been greatly facilitated by the discovery of mandelic acid, the sulfonamides and penicillin.

These factors, with others, have reduced the mortality of prostatic surgery from a frightful 50 per cent to the point where it is not unusual to read a report of 100 operations without a fatality. Many are such poor operative risks that any major surgical procedure would be fatal to a large percentage. Sometimes an operation is imperative irrespective of the hazard. It is the choice of two evils.

The medical consultants are entitled to a full share of the credit in the successful management of the patient with prostatic obstruction. If the optimum time for operation is not recognized, it may be that the patient can never again be brought

back to such a good state. Once improvement has been judged maximum, operation should be done at once.

For the anemia, which is usual, infusions of whole blood are administered liberally. Bed rest is dangerous, since it leads to circulatory stasis and its complications. Most patients are out of bed on the first or second day after a prostatic operation, even if they are so weak that they have to be carried to a chair. Ambulation is an extremely important phase of preoperative and postoperative care. Effective chemotherapy is a happy advantage which was not available 10 years ago.

The proper type of operation must be performed at the proper time. The state of preservation of the man is more important than his age, the size of his prostate, or the type of operation. In some cases, the type of operation is very important. In other cases, it makes little difference which type of operation is employed. When good urologic surgeons operate on well preserved men, a mortality rate approaching one per cent can be expected from any one of the three types of operation.

Suprapubic prostatectomy by skilled surgeons, on well preserved patients, has a mortality rate comparable to that of perineal prostatectomy or transurethral resection; and the patient may eat a regular diet after 24 hours and often is ambulatory after 48 hours. Urinary drainage may cease after the fifth day, and some of the patients go home by the 10th day. It is unusual for a well preserved man to stay in the hospital longer than two weeks after operation. Though preliminary drainage can often be accomplished by means of an inlying urethral catheter, many men can tolerate it for only a few days. If it requires weeks or months to correct cardiac decompensation, renal insufficiency, anemia, toxemia and like conditions, a suprapubic drain is the only practical means of maintaining an adequate flow of urine. When the time for operation arrives, the suprapubic is usually the method used for the removal of the prostate because an opening into the bladder already exists.

An advantage of the perineal approach is the opportunity afforded to combat carcinoma. This arises in the posterior lobe, so the exposure permits the surgeon to see, feel and take a specimen of the gland for biopsy. If it be carcinoma a radical removal of the prostate and its capsule and the seminal vesicles can be done only by the perineal approach. The perineal wound gives excellent dependent drainage, which results in a minimum of febrile reaction from infection. The patient usually eats a regular diet after 24 hours and is out of bed after 48 hours. On well preserved men, the mortality rate approaches one per cent.

Transurethral resection first was done on small collar-type obstructions and median-lobe hypertrophy. Some skilled urologists have done several thousand resections, removing successfully the obstructing tissue in the extremely large prostates. A few use no other method, regardless of the attending conditions, even if a second resection is necessary to remove the obstruction completely. A large prostate can be enucleated as rapidly as a small prostate, but a large prostate cannot be resected as rapidly as a small prostate. Since every bite is the same size, the number of cuts necessary is in proportion to the size of the gland. This factor is important in the amount of operative shock. For this reason many urologists elect to remove the larger prostates by suprapubic or perineal enucleation, usually in 25 or 30 minutes. Then, failure of any piece of the intricate electrical apparatus interferes with the smooth completion of the operation. In well preserved patients, the mortality rate after transurethral resection is about the same as that for suprapubic and perineal prostatectomy.

In men, only carcinoma of the stomach and rectum occurs more frequently than carcinoma of the prostate. The normal prostate is resilient, elastic and rubbery, while the cancerous tissue is hard and unyielding. If just beginning it feels like a hard stone imbedded in the prostate. Be suspicious of hardness in the prostate. Since 14 of every 100 men over 50 have carcinoma of the prostate, it is imperative that every man over this age have a rectal examination at regular intervals.

Removal of the testicles tends to arrest the growth of malignant disease and the pain arising from the bone metastasis.

The incidence of infection, benign hyperplasia and malignant tumor of the prostate gland in men over 50 years of age emphasizes the importance of regular rectal examinations, early diagnosis and suitable treatment in dealing with this three-fold problem. The surgical and medical management of the three types of cases in well preserved and poorly preserved patients is presented. The suprapubic, perineal and transurethral methods of removal of the prostate gland are discussed and evaluated, as is the hormone-castration concept in the treatment of carcinoma of the prostate.

Our own experience in this field is in agreement with that of Dr. Nugent that well preserved patients stand well either of the three methods of removal of the prostate. But so few of those who come to us for such removal are well preserved. And for the overwhelming majority, made up of the poorly preserved, we have found transurethral resection so acceptable and so successful that it is a rare thing for us to use any other method.

TUBERCULOSIS

J. DONNELLY, M.D., *Editor*, Charlotte, N. C.

REHABILITATION AND AFTERCARE IN TUBERCULOSIS

1. H. E. Hilleboe & N. C. Kiefer, USPHS, in *Pub. Health Ref.*, Mar. 1st.

REHABILITATION, the process of restoration of economic self-sufficiency to a disabled person, is a much neglected feature in the management of the tuberculous. This is a problem in tuberculosis because it must protect the patient against recurrence and the public against spread of the disease.

The patient sees rehabilitation as a preparation for a maximum of economic independence. Rehabilitation should begin no later than the day the patient enters the sanatorium, because from the beginning he must know that there is still a future for him. This knowledge acquired early in illness makes a great difference in his morale and his manner of adjustment to a radically changed way of life.

If we exclude those jobs which have been proved to be hazardous because they involve extreme physical exertion, and excessively long hours or exposure to unfavorable hygienic conditions, there remain very few occupations which threaten the patient's health. To these must be added those jobs on which the tuberculous worker would endanger the health of other individuals.

Contentment in work which the patient enjoys is an important requirement.

Even the patient who may return to work that requires a minimum of physical exertion cannot resume his job immediately upon leaving the sanatorium. At first, he has physical strength for only a limited number of hours of daily work. He needs time to rebuild full work tolerance and to bring his skill back to former standards.

The prospect of abandoning dependents to a meager existence is a prime factor in causing many tuberculous wage earners to refuse early hospitalization.

A policy of carrying the patient and his family through the entire period of treatment, vocational retraining and restoration to full earning capacity, by national subsidy, is being adopted in England. Certainly this should be done in the United States, by state, county or city government.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

TREATMENT OF DELIRIOUS REACTIONS IN LATER LIFE

DOTY¹ reminds us of the special difficulties of dealing with the delirium of old folks, and offers helpful advice.

1. E. J. Doty, New York, in *Geriatrics*, Jan.-Feb.

Older patients with arteriosclerotic changes in the brain and kidneys rather readily develop delirious reactions from the use of bromides. The elimination of this medication from the body is effected by the administration of sodium chloride in 6 to 12 gm. doses daily, with maintenance of adequate fluid intake. During this procedure it is advisable to frequently determine the level of bromide in the blood, so that the chloride does not release the bromide from the tissues into the blood stream faster than the arteriosclerotic kidneys can eliminate it.

It is best to avoid the use of chemical sedation in older patients whenever possible. The barbiturates accentuate nocturnal confusion and restlessness in some elderly patients. If chemical sedatives have been employed they should be discontinued immediately on the earliest evidence of delirium. Too often the administration of such a drug is increased as the restlessness increases, thereby adding to the delirium.

If a chemical sedative becomes necessary as overactivity develops, paraldehyde given in 10 c.c. doses by mouth or nasal tube is the sedative of choice. It is excreted readily and thus does not accumulate in the body to add toxic factors to the delirium. If such sedation is employed it is best if possible to confine its use to the night time. Other readily excreted sedatives that do not have the unpleasant taste and odor of paraldehyde would contribute to ease in administration and the comfort of those who come in contact with the patient.

Avoid rectal administration of medications and other rectal manipulations such as giving enemas and taking temperature, as they may add to the patient's fear or produce erotic stimulation. For marked excitement it may be necessary to give hypodermically morphine sulfate combined with scopolamine. In the prolonged delirium of some

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senile patients, showing restlessness and excitement, scopolamine in doses of 1/150 grain three or four times a day is helpful.

To keep the patient resting as much as possible the warm tub bath is the most desirable measure. The water is circulated through the tub at a temperature of 97.5°. In some older patients temperatures one or two degrees cooler produce more relaxation. The patient may remain in the tub for several hours if his reaction is favorable. Important contraindications are the occurrence of unmanageable degrees of excitement or circulatory embarrassment. Wet packs offer an even greater likelihood of unfavorable circulatory reaction. Mechanical restraint causes the delirious patient to struggle to escape, thereby accentuating his fear, and may lead to physical collapse.

SURGERY

GEO. H. BUNCH, M.D., *Editor*, Columbia, S. C.

INJECTION TREATMENT OF SPRAINS

A SERIES of 60 sprains of the ankle and wrist was treated successfully by novocain injections in the Aleutian Islands. All were treated similarly regardless of degree of pain, except that in mild cases, which were adequately controlled by heat and massage, no injection was given. Unless there was objective evidence of sprain, i.e., local swelling (except where there was great tenderness in the first few minutes), injection was not performed until röntgenograms showed no fracture. Injections were given at the earliest possible moment—treated as early as within fifteen minutes and as late as six days afterward. Two patients brought in from outposts, after five and six days, respectively, had immediate relief after injection and almost no discomfort 24 hours later. The diagnosis was made and absence of fracture proved, clinically or röntgenologically. Röntgenographic examination was made in all cases of suspected fracture—after injection in early cases, before injection in sprains over 12 hours old.

Equipment is sterilized by autoclaving if possible, otherwise by boiling. In the typical case, 10 c.c. of 2 per cent novocain solution (with 1:50,000 epinephrine) are injected at the point of maximum swelling or maximum tenderness. The ordinary hypodermic needle has been sufficient in every case to reach the involved parts. If more than one area of swelling or tenderness be noted, up to 15 c.c., are injected, one-half of one-third the total amount in each area. One patient with a sprain on both sides of the ankle received an injection of 10 c.c. on each side.

Immediately after injection and application of

J. Herbert Nagler, Capt., M.C., U.S. Army Flight Surgeon, in *Military Surgeon*, June, 1945.

a small gauze or collodion dressing over the injection site, the patient puts on his regular shoe and walks a few minutes until he no longer limps; goes about his duties, except if his work is to be sedentary he is to walk a bit several times an hour. No strapping or other support is applied.

The technic provided excellent results in all 8 sprains of the wrist, and in 56 (93%) of the sprained ankles, very good in 3 (5 per cent), and failure in 1 patient who, it was discovered, had a year-old ununited fracture of the navicular bone.

All but the last mentioned patient said they felt immediate relief, either complete or almost complete. After 24 hours all wrist patients and all but 16 ankle patients reported practically no discomfort. These patients had very little or no swelling and were never seen again, except a few who, when they returned on sick call for other complaints, stated that they had had no further trouble. Of these, 1 patient, treated immediately after injury by a correctly applied Gibney boot, was seen by the author 14 hours later. The swelling and limp usual in this treatment were noted. Injection was performed through a window in the boot with such good effects that the boot was removed. Next day the swelling had almost disappeared and the patient reported almost no discomfort.

Three patients were reinjected using the same technic on the day following the original treatment, with excellent results.

Ordinary walking in the Aleutian area is a constant test of the adequacy of the injection treatment of sprains and as far as can be told at this time the treatment is a great improvement on any hitherto used. Many patients have now been on full military duty for periods up to twelve months without ill effect.

TWO CASES OF OZENA CURED BY PICKRELL SOLUTION (R. J. Vreeland, Paterson, in *Jl. Med. Soc. N. J.*, Feb.)

Ozena being a thing of misery and disgust to the patient and to associates, and being generally resistant to treatment, this report is made.

A woman 38 years of age appeared because of an acute abscess in her ear.

Examination of her nose showed a terrible condition; she would welcome any suggestions, but was not optimistic, not having made any progress in this condition over a period of 25 years.

I gave Pickrell solution* to be used as a spray 4 i. d. At a subsequent visit for another ear infection my amazement knew no bounds when upon looking into her nose I saw it completely free of crusts and discharge and the tissue of a healthy pink color.

At the time I was treating another woman, aged 60, with a most advanced case of ozena in which I was making no headway. This woman was sent to me by her husband, whose life was miserable because of the odor. Following the same treatment this woman's condition was cleared up just as satisfactorily as the other's, and brought a visit from her grateful husband thanking me for what I had done.

*A solution of 3.5 . . . sulfathiazine in 6% trietholamine."

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Offerings for the pages of this Journal are requested and given careful consideration in each case. Manuscripts not found suitable for our use will not be returned unless author encloses postage.

As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

THE TRI-STATE MEETING

As was anticipated, the attendance at the meeting of the Tri-State Medical Association held in Richmond in February was not as large as had been the case under more normal conditions. Great numbers of the members, and those who would under ordinary circumstances have been attending as new members, were still in the service or just getting back and reestablishing themselves in practice. Those who had been in civilian practice all through the emergency were working long hours and found it difficult or impossible to leave those dependent upon them for medical ministrations.

But whatever was lacking in quantity was made up in quality. The program was pronounced by Dr. James K. Hall and many others the very best in the half-century of the Association's existence. And it is to be remembered that all these presentations will be spread before the members on the pages of the official journal from month to month.

Our next meeting is to be held in Greensboro. The Greensboro membership, under the leadership of Dr. C. M. Gilmore and Dr. R. B. Davis, are already planning the details of a tremendous meeting for 1947. The Council was instructed to consider the advisability and feasibility of changing the time of the meeting from February to a time which might be more seasonable.

Fifty new members were received into the Fellowship, and a number of delayed applications are straggling in from distant points.

As we were unable to hold a meeting in 1945, we this year chose a president and a president-elect. For the same reason, we chose six counsellors instead of the usual three.

Newly elected officers are: president, Dr. John Wyatt Davis, Lynchburg; president-elect, Dr. Raymond Thompson, Charlotte; vice-presidents: Dr. James Asa Shield, Richmond; Dr. W. W. Fenner, Rock Hill; Dr. R. B. Davis, Greensboro; councillors: for Virginia, Dr. Rex Blankenship, Richmond; Dr. Russell Buxton, Newport News; for North Carolina, Dr. C. M. Gilmore, Greensboro; Dr. Grady Dixon, Ayden; for South Carolina, Dr. F. E. Kredel, Charleston; Dr. W. R. Wallace, Chester.

Forty-Seventh Annual Meeting

THE TRI-STATE MEDICAL ASSOCIATION
of the Carolinas and Virginia

Richmond

February 25th and 26th, 1946

Monday, February 25th

10 A. M.

Call to Order

Dr. James K. Hall

Chairman, Committee on Arrangements

Dr. Hall:

Members of the Tri-State Medical Association. Ladies and Gentlemen: Springtime in Virginia is a time of memories. Lately we have been giving attention to the anniversaries of the births of Washington and Lee, and soon we shall celebrate the anniversary of the birth of Patrick Henry. Also, it is close to the anniversary of a half-century for this Association. The Tri-State Medical Association was organized at Virginia Beach in 1898. The first meeting was held in Charlotte, North Carolina. Three years from now, in this hotel I hope, the semi-centennial of this Association will be held.

The invocation will be pronounced by the Reverend John Allan MacLean, Jr., D.D., who has ministered to the spiritual needs of the Carolinians in both states and he is now pastor of the Ginter Park Presbyterian Church in Richmond.

Dr. MacLean:

Almighty and most gracious God, we thank Thee as the giver of every good gift; for this beautiful day, for life itself, and for the privilege of service. We remember that when Jesus was on earth He ministered not only to the souls of men, but to the diseased bodies and sick minds of suffering humanity.

We thank Thee for the spirit of unselfish concentration which is characteristic in the medical profession, and we pray this spirit may forever be perpetuated. We thank Thee for the service for those not only in direct contact with individual men, but for the contributions made by men through laboratories, in studies, and experimental medicine.

Grant to Thy servants not only understanding minds, but minds illuminated by Thy Holy Spirit, and enable us all, we pray Thee, in our respective fields of service, to make the most of our opportunities. To Thy name be the praise and the glory, both now and forever. Amen.

Dr. Hall:

I have not been able to attend all the meetings of this Association in its forty-eight years of existence; but I have attended a great many of them. The Association, as I recall it, has never been welcomed in any one of the three states by the gov-

ernor of the state. You are going to have the rare privilege of being welcomed to this meeting by the Governor of Virginia.

You will look upon a citizen of robust physical constitution, of firm purpose, of courageous heart, who symbolizes the hope of the citizenship of this ancient and distinguished Commonwealth. It is a pleasure to me and a great honor to present to you my friend, His Excellency, William Munford Tuck, Governor of the Commonwealth of Virginia.

Governor Tuck:

Members of the Tri-State Medical Association, Ladies and Gentlemen: I deeply appreciate the very generous remarks which my friend, Dr. Hall, has made with reference to myself. And, while I realize fully that he has been entirely too generous in what he had to say, irrespective of whether or not what he has said is true, I greatly enjoyed hearing it.

I have been quite busy for the past few weeks since I was inducted into the office of governor; and it is a great pleasure to have this opportunity of leaving the affairs of state to come here and have these few moments of pleasure with you. The invitation from my friend, Dr. Hall, was such that I could not decline; because I am, and have been for many years, very close to him, personally, and I am only one of his many thousands of friends and admirers in the Commonwealth of Virginia.

I shall not talk to you long. Sometime ago I was reading a Mark Twain story. He said he went to hear an orator speak in a revival. When the man first started preaching, he made up his mind that when the plate was passed he would make a \$50.00 contribution to the cause. He listened for thirty minutes more, and decided when the plate came around, he would make a contribution of \$25.00. Finally, after the orator had kept up his speech for an hour and a half, Twain said he had to take \$2.75 out of the plate to even up the score.

It is fine that you should choose the historic city of Richmond for your 47th annual meeting of the Tri-State Medical Association. We are glad to have you with us at this time, as always. Now that we have just emerged successfully from the most horrible war of all the ages, we can take great comfort from the knowledge that our democracy has been saved, at least temporarily; but I would remind you of this fact, and with no desire whatsoever to make your meetings here less pleasant, that we are now face-to-face with some of the most momentous questions which have ever confronted the people of America, questions which affect not only the medical profession, but all the people of the United States.

I believe, at this time, that we, the leading members of the medical and the other learned professions, and all those of us who are concerned for

the future welfare of our country should dedicate ourselves to assist in every possible way in the solution of the all-important public questions that confront us. We should be able to approach those problems unselfishly and with an eye single to the common good and in the same spirit with which our hardy forefathers in other generations met successfully the equally important public questions of their day.

We are glad to have you here in Richmond, one of the most historic cities in America. I invite you to the capital where you may see in the rotunda the Houdon statue of Washington. Washington, himself, looked upon it and found it good. A number of replicas have been made, but that is the original, esteemed and rated one of the greatest pieces of statuary in the world.

The old hall of the House of Delegates has been restored within recent years to the way in which it was originally. There is the room in which Chief Justice Marshall presided in the trial of Aaron Burr for treason in the early years of this country. The very chair in which the Chief Justice sat is still preserved. In that room, Lee accepted command of the Army of Virginia, and there has been erected a statue on the spot where he stood. It was in that room that the Congress of the Confederacy met throughout the entire period of the Confederacy.

There are many other places in Richmond well meriting a visit.

On behalf of the people of Virginia and as the Governor of the Commonwealth, I welcome you to this historic city and state, and may you have a good time while you are here.

Dr. Hall:

Dr. Bigger will welcome you to the city in the name of the Richmond Academy of Medicine, of which he is president. Dr. Bigger, as you know, is also the head of the Department of Surgery in the Medical College of Virginia. I can not introduce Dr. Bigger because you know him; I only announce him.

I have often wondered why so many Carolinians left home. I have never asked Dr. Bigger this question; but we are glad, anyway, that he stopped in Virginia.

Dr. Bigger:

Governor Tuck, Members of the Tri-State Medical Association: I am here to bring you greetings and the welcome from the Richmond Academy of Medicine, and to go on record as hoping that you will call on us for any assistance of any kind which we can give you while you are here to make your stay most pleasant and profitable.

Specifically, I would like to invite the members of the Tri-State Medical Association to the meeting of the Richmond Academy of Medicine to-

morrow night. Dr. Moore of Philadelphia will speak on some of his recent research work and its clinical application. His talk will be of interest to most of you. It will interest not only the surgeons, but those of you dealing with medical problems. Those of you not familiar with the site of the academy will find it at 12th and Clay Streets. I hope it will be possible for a considerable number of you to be there.

I am delighted to have you here, and it is a real pleasure to me to be able to present you greetings and welcome. I am from South Carolina. I went to college in North Carolina. I am now in Virginia. I could say I'm from all three states.

Dr. Hall:

Dr. George H. Bunch of Columbia, president of this Association, we have all known for many years. I will present him but not introduce him because he doesn't need an introduction.

Dr. Bunch:

Mr. President, Ladies and Gentlemen: It is my privilege on behalf of the Tri-State Medical Association to thank Governor Tuck and Dr. Bigger for their warm, hospitable welcomes. Richmond, indeed, appeals to most of us in this organization as a home; and it is always a pleasure to come here, not only to get scientific information such as Dr. Bigger offers us tomorrow night, but also for the inspiration that we always get from the very atmosphere of Richmond.

Our nation is in the process of adjustment from war time to peace time conditions. We have had a time of stress and strife. We have had upheavals. In the economic status in which we find ourselves, it is proposed by the Federal Government that medical care be paid for by the government, that it be put under the control of a bureau in Washington. I hope this may never happen. It would make the practice of medicine no longer a free enterprise. It would deny the patient the privilege of selecting a doctor. In times like these, the members of this organization turn toward such members as Dr. Hall and Dr. Bigger, representing the other members of the Academy of Medicine, for counsel and leadership.

Personally, I believe the whole situation is a hysteria. There is evidence that these turbulent times will pass. In case the medical profession is regimented in this proposed way, I fear that we are going to be like the lady in the limerick—

There was a lady of Niger,

Who smiled as she rode on a tiger;

They returned from the ride

With the lady inside,

And the smile on the face of the tiger.

Dr. Hall:

President Bunch is now in charge of the meeting. I am much obliged to all of you for your

kindness in being here and your cordial words. We are obliged to Governor Tuck. He is an exceedingly busy man; and we are obliged to Dr. MacLean for his invocation.

Dr. Bunch:

The scientific session of the Tri-State Medical Association will come to order. Dr. Feder could not be here to present his paper so we will proceed to the next paper by Dr. Brockmann of Greenville, South Carolina, who is to address you on the subject, "Why All States Should Have a Basic Science Law."

FOR THE SOUTH

**MORE MILK, FRUITS, VEGETABLES, HEALTH
AND MONEY
LESS COTTON**

ALL OF US enjoy seeking our favorable predictions come true.

In its issue for April, 1945, this journal carried an editorial under the title here repeated, which is herewith reprinted in its entirety:

A great deal is being written in a pessimistic tone about the future of cotton farming in the U.S. Despite the tremendous increase in the production and consumption of tobacco, cotton is still by far the most important money crop of the South; and despite the increase in manufactures, the South is still mainly agricultural.

It is plain that the present high subsidies paid the cotton farmers cannot be kept up indefinitely, and that if the threat of introduction generally of cheaper means of producing the crop becomes an actuality there will result appalling unemployment in the South.

Apparently no one has found a solution of the problem. It seems plain that a solution now offers itself for this and another important problem all at the same time.

The examinations of men called to the colors as well as of men and women entering government civilian work, and reports of our State Boards of Health, show lack of certain food products in adequate amount, to a certain extent all over the country, and particularly in the South. This lack is chiefly of dairy products, butchers' meat, fruits and vegetables. The last census shows for one of the large cotton-growing counties of North Carolina more hound dogs than milkcows.

At the county seat of Coffee County, Alabama, stands a monument erected by a grateful populace to their greatest benefactor, The Boll Weevil. A good many years ago, when cotton farming was practically the sole enterprise of the county, the boll weevil invaded that section and compelled people to look about for some other means of subsistence. They turned to cattle raising, and with such

happy results that they erected this monument to this friend in disguise who compelled them to so greatly better themselves. There may be significance in the fact that the name of this county seat is Enterprise.

One of the most startling developments of the present war as to its medical aspects is the great number of disabilities from peptic ulcer and kindred digestive disturbances. The fundamental means of dealing with this condition is to have the patient eat often, and particularly of milk and milk products. A great many of those with most experience in dealing with this disease condition are convinced that its incidence would be greatly reduced if we were to supplement our three regular meals daily with three smaller feedings, mostly of milk and milk products. Quoting from an article by one of these authorities in a State medical journal for the present month:

"Peptic ulcer is a deficiency disease reflecting a high intake of refined carbohydrates and an inadequate amount of all vitamins and food minerals. A high-vitamin and mineral diet should be prescribed including all [fat-soluble] and water-soluble vitamins, and should be *kept up for life*." These are the means offered for preventing peptic ulcer in the first place, and for preventing its recurrence. They are also the means of supplying all nutritional requirements for best development and best continuation in health. This kind of diet is made up largely of milk and milk products, butchers' meat, fruits and vegetables.

Milk and milk products, fruits and vegetables constitute a much larger portion of the diets of the members of our armed forces than of their diets in civilian life. The same is true of our civilian population, since higher wages have enabled them to purchase daily as necessities what had formerly been luxuries almost or entirely beyond their reach.

It can be confidently predicted that the gratification of these new appetites will be continued indefinitely.

By far the greater portion of the land now being planted in cotton is suitable for stock farming, including dairy farming, and for the growing of fresh vegetables and fruits which have heretofore been consumed very little, if any, by 75 per cent of our population, but which are now eagerly bought by all. These fruits include all those of the citrus family, peaches, apples, pears, plums, cherries; grapes in all their varieties of flavor, food usages, and season for ripening; figs for daily use fresh through most of the summer and till frost, and throughout the year canned and preserved; and the several varieties of berries.

The vegetables to which this reasoning applies most particularly are sweet corn, tomatoes, greens, celery, lettuce, asparagus, melons; and the little-

known, but delicious and nutritious, salisify needs only to be known to be appreciated and to become largely consumed. Meeting the tremendously increased demand for what was once the lowly peanut will use up profitably a considerable percentage of the land and labor now being utilized in the growing of cotton.

A proud and happy day it will be for us when we will no longer be confronted at stores and in newspapers by the sign Prime Western Beef; when we will see in its stead signs reading something to this effect:

Southern-Raised Beef, Mutton, Pork, Bacon and Poultry—The Best Anywhere.

And when we of the South will consume two to three times as much milk, cream, butter and cheese in all its varieties, including the expensive kinds we formerly got from Europe and lately some from South America—all of it produced in the South.

And when every family will consume quantities of fruits and leafy vegetables, raw and cooked, daily.

If the population of the South will but double its consumption of milk and milk products—including cream, ice cream, cheese of all kinds—and will meet the already created demand on the part of its own people for butchers' meats, fruits and vegetables, the South will find thereby a much more profitable use for the half of the land and labor now being bestowed on cotton-growing; and the remaining half-crop of cotton can be sold at as good or better price than at present, with no need for subsidies or the accumulation of tremendous surpluses which nobody knows what to do with.

And with a tremendous gain in our health and happiness.

The doctors of the South can by regularly advising their families along these lines assure the success of this program of such tremendous importance to our physical and economic health.

According to a communication just received from the Milk Industry Foundation:

Returning veterans, drinking milk in record quantities have helped raise U. S. consumption to all-time high levels. Never in our history has there been such a tremendous flow of milk from American farms to so many people. With milk production on farms around four billion quarts a year higher than before the war, the supply cannot keep up with the demand. Milk is, the Foundation says, the largest single source of cash farm income. More cash is paid for milk than for cattle or hogs, more than twice that for cotton, wheat and eggs; and four times the amount paid for tobacco. Farm income from milk for 1945 is expected to exceed three billion dollars. Milk and its products comprise more than 25 per cent of the foods estimated to be consumed annually in the United States.

More than 50 million quarts of fresh milk and cream are consumed a day.

Further, cattle-raising provides a by-product which enriches the soil, while cotton-growing so impoverishes it as to require an enormous yearly expenditure for artificial fertilizers.

Finally, legislators—state and national—might promote this program after learning that Faraday, appearing before the British Parliament seeking a subsidy for electrical research, on being asked by a member, "What good is electricity?", replied, "Soon you will be able to tax it."

WELCOME HOME, DOCTOR

Collier's offers a pertinent editorial suggestion in its issue for March 15th:

Doctors who served in the war are coming home in considerable numbers now, and in many communities you can hear sighs of relief plus the frequent remark: "Well, thank heaven, I can get sick now." Welcome-home editorials are appearing in local newspapers as favorite physicians return; testimonial dinners are being thrown profusely; the medical veterans are being invited to address Rotary, Kiwanis, etc., luncheons; and all this and that.

It's all very nice, and no doubt the doctors are pleased. We think, however, that we have an idea for a welcome-home program which any community can stage, and which should be of substantial benefit to the doctors so welcomed.

In honor of each physician who comes back from the wars, how about a Pay The Guy What You Owed Him When He Left movement?

Most doctors are poor bill collectors. Many people let the doctor's bills go till the last. Many others just nonchalantly forget about the doctor's bills—and squawk fiercely if he squawks at all. It all adds up to the fact that on practically every doctor's books are large amounts in unpaid bills. He could very conveniently use that money after several years in service on modest service pay.

No bands, luncheons, reception committees, etc., are needed for this Pay The Guy, etc., movement. All that is required is a mass migration to the mailboxes by doctors' debtors with envelopes containing checks or money orders in their hands. The ceremony is guaranteed to make the debtor as well as the doctor feel better.

ORAL POLLEN MEDICATION (N. F. Thibierge) in the form of enteric-coated pills is an effective supplement to parenteral allergic therapy and may be advantageous to the patient who travels extensively or who is needle-shy.

RECENT investigations indicate that in the administration of aspirin best results are obtained by giving 5 grains every 2 hours (adult dosage). In very painful conditions it may be well to give 10 grains as the initial dose.

NEWS

THE SECOND NORTH CAROLINA DISTRICT MEDICAL SOCIETY was entertained by the BEAUFORT COUNTY MEDICAL SOCIETY in Washington, N. C., on the night of January 22nd. The meeting was presided over by the President, Dr. James G. Ramsey, who welcomed the members to Washington. Supper was served to 75 members, after which Dr. Joseph Latham of New Bern read an excellent paper on Psychosomatic Medicine which was fully discussed by Doctors A. R. Peters, Jr., and L. H. Swindell of Washington, and Dr. E. W. Furgurson of Plymouth. Dr. S. H. Williams, Jr., of Washington, read a paper on Early Postoperative Ambulation. This was discussed by Doctors J. D. Hawes and John Winstead, of Greenville, and Dr. Leslie Lee, of Kinston. After presentation of these papers, Dr. Roscoe McMillan, of Red Springs, the principal speaker of the evening, made an instructive talk on the condition of the North Carolina Medical Society. Dr. John Winstead, of Greenville, was then elected to represent the Second District Medical Society at the meeting of the Workmen's Compensation Com. to be held in Raleigh during the following week. Dr. J. S. Rhodes, Sr., of Williamston, was elected President of the Society for the coming year; Dr. Claudius McGowan, of Plymouth, Secretary and Treasurer. The 1947 meeting will be held in Plymouth.

—JOHN C. TAYLOE, M.D., Councillor.

THE PITT COUNTY MEDICAL AND DENTAL SOCIETY held its regular monthly meeting February 14th at the Proctor Hotel in Greenville, President F. P. Brooks in the Chair.

The program consisted of a symposium on Electrocardiography—History and Fundamental Principles, by Dr. F. P. Brooks; Interpretation, by Dr. D. B. Armistead. A report was made on the work of the Pitt County Health Department for the month of January by Dr. N. Thos. Ennett, Health Officer.

Drs. J. B. Hawes, W. M. B. Brown, F. B. Haar and D. B. Armistead have recently been released from the service and have resumed their practice in Greenville.

Dr. C. F. Irons and his wife, Dr. Mahleen Irons, and Dr. Francis L. Norris have recently entered practice in Greenville. Dr. Mahleen Irons is a pediatrician and Dr. Norris is associated with Dr. Joseph Smith in general practice.

NORTHWESTERN UNIVERSITY ANNOUNCES GREAT MEDICAL PROGRAM

A plan of development for the Chicago campus of Northwestern University emphasizes the need for vastly increased research in law, medicine, dentistry, business government and aeronautics, and represents one of the most comprehensive programs ever announced by a university.

The new program, which the University aims to realize within the next 25 years, calls for the raising of \$95,000,000 to \$150,000,000 to erect on the campus sixteen new buildings, equipped with all necessary facilities, and to provide a large endowment for research and teaching.

Among the various objectives, top listing goes to the development of a great medical center that will place major emphasis on research. Ten new buildings are envisaged which, together with equipment and endowment for fellowships, libraries, the publication of research, and a staff of brilliant medical investigators, will require a sum of \$63,000,000 to \$95,000,000.

President Snyder and other University officials are hopeful that a substantial part of the development may be accomplished by 1951, when Northwestern will celebrate its hundredth anniversary.

The Norton Medical Award Offer

With the rapid advance in medicine it is more difficult and more important than ever for the general reader to be informed about the accomplishments of medical science. Like other scientific workers, medical men for the most part write for each other, and the layman has consequently been forced to resort to nonprofessional popularizers. With this in mind, The Norton Medical Award is established to encourage the writing of books for laymen by professional workers. The Award is also offered to encourage writing which relates medicine to society and demonstrates the spirit that inspires and sustains men of medicine in their work.

The Award is offered for a book to be published in 1947.

Qualifications of the Contestants—

A professional worker in the field of medicine.

Two or more authors writing in collaboration, any one of whom is a professional worker in the field of medicine.

The Nature of the Manuscripts to be Considered—

Subject matter may be autobiography, biography, history of any phase of medicine, exposition of medical science or of medical theory.

The manuscript should be addressed to the layman.

The preferred length is from 60,000 to 175,000 words.

The Presentation of the Manuscript—

Each manuscript must be accompanied by an entry form which has been filled out in all particulars. Entry forms may be obtained from the publishers on request.

The complete manuscript must be submitted, with illustrations or a list of illustrations if any are to be included.

Manuscripts must be typewritten; original copies—not carbons—double-spaced and typed on one side of the paper only.

The publishers will be glad to send to contestants on request a copy of the Norton Manual of Style. New authors, in particular, will find this booklet helpful in the preparation of manuscripts for publication.

Terms of the Award and Publication—

To the author of the successful manuscript as described above and as determined by the Editorial Board of W. W. Norton and Company, Inc., under the conditions stated, the publishers will pay the sum of \$3,500 as follows: \$1,000 as an outright grant, independent of royalties, to be paid on the date the Award is announced; and \$2,500 to be paid on the date of publication of the book, as a guaranteed advance on account of royalties.

The final date for delivery of manuscripts is November 1st, 1946. Manuscripts should be addressed to—*The Norton Medical Award, W. W. Norton & Company, Inc., 70 Fifth Avenue, New York 11, N. Y.*

MCGUIRE CLINIC GENERAL HOSPITAL TO BECOME UNIT OF VETERANS ADMINISTRATION

On March 31st, McGuire General Hospital, of the United States Army, will be transferred to the Veterans Administration to become a unit of the tservice. To receive the hospital into the Veterans Administration, Lieutenant-Colonel Edmund M. Ellerson, Medical Corps, United States Army, has been designated Acting Manager. For that purpose Colonel Ellerson is to be transferred from the Veterans Hospital at Kecoughtan, Virginia, of which he has been Chief Medical Officer for several months. Prior to that assignment he served at many posts in this country and in many areas beyond the Atlantic. Colonel Ellerson, a native of Washington City, is the son-in-law of the late Dr. Beverly R. Tucker.

Dr. John Powell Williams has been named Chief Medical Officer of the McGuire Unit. Dr. Williams participated in World War I as a combat officer. In World War II he was Chief Medical Officer in the 45th General Hospital and in that capacity he experienced long and varied

service in Africa and in Italy. Dr. Williams in the interim between the two wars was a medical student, a member of the McGuire Clinic and of the faculty of the Medical College of Virginia. Few physicians of his age have had such experiences as his in peace and in war.

COURAGE AND DEVOTION BEYOND THE CALL OF DUTY

Through the coöperation of Mead Johnson & Company, \$34,000 in War Bonds are being offered to physician-artists (both in civilian and in military service) for art works best illustrating the title given above.

This contest is open to members of the American Physicians Art Association. For full details, write Dr. F. H. Redewill, Secretary, Flood Building, San Francisco, Cal.

DR. THOMAS EDGAR PAINTER has become a member of the medical staff of Westbrook Sanatorium. Dr. Painter is a native of Tennessee, most of whose life has been spent in Virginia. He was graduated from the Medical College of Virginia in 1931 and served an internship in the Hospital of the Medical College for two years. For six years he was a member of the medical staff of the Eastern State Hospital at Williamsburg. For two years he was engaged in general practice and with the Hercules Powder Company at Pulaski, Virginia. From 1942 until 1946 he was a member of the Medical Corps of the Army with about two years foreign service.

COLONEL WILLIAM FRANCIS MARTIN, M.C., announces his release from active duty and his return to the private practice of General Surgery; Suite 608 Professional Building, Charlotte, North Carolina.

DR. JOHN COCHRAN REECE has recently been appointed pathologist of Grace Hospital at Morganton, N. C. He will share his time with the State Hospital at Morganton. Dr. Reece is a native of Statesville, a graduate in medicine of New York University, and he saw service in the Medical Corps in the Second World War.

DR. J. BIVENS HELMS, of Morganton, N. C., has been elected president of the Catawba Valley Medical Society. Dr. L. A. Crowell, of Lincolnton, was re-elected secretary.

DR. JOSEPH EAGLE BARRETT has been appointed Commissioner of Mental Hygiene and Hospitals by Governor Tuck to fill the vacancy caused by the death of Dr. H. C. Henry. For more than a year Dr. Barrett has been Superintendent of the Eastern State Hospital at Williamsburg. And prior to that period he was a member of the medical staff of the Southwestern State Hospital at Marion, Virginia.

DR. LOUIS GIRARDEAU BEALL, for the past several months Acting Superintendent of the State Hospital at Morganton, has been elected Superintendent of that institution by the State Hospital Board.

DR. ROBERT GUY BLACKWELDER has been elected by the Hospital Board to be Superintendent of the State Hospital at Raleigh, after having served for several months as Acting Superintendent.

DR. PERCY GATLING HAMLIN, lately Colonel in the Medical Corps of the United States Army, has assumed civilian status. He is now engaged in the private practice of psychiatry in California, and his address is 2018 Grand Avenue, Santa Barbara.

DR. MCCHORD WILLIAMS announces his return from military service and the reopening of offices in the Professional

Building, Charlotte, N. C., for the practice of Surgery. Diplomate of the American Board of Surgery.

MARRIED

Dr. and Mrs. Frank G. Scott, of Orange, Virginia, announce the marriage of their daughter, Wyldi, to Dr. Allan B. Warren, son of Mrs. Allan B. Warren, also of Orange, and the late Mr. Warren. After March 8th, Dr. and Mrs. Warren will make their home at Charlottesville.

Miss Mary Louise Moffett, of Charlottesville, Virginia, became the bride March 1st of Lieutenant (jg) Robert Steele Hutcheson, Jr., Medical Corps, USNR, of Lexington.

The bride, who is the daughter of the late Rev. and Mrs. Harry McClellan Moffett, of Davidson, N. C., was given in marriage by her brother, Mr. Alexander Stuart Moffett, of Charlotte, N. C.

Miss Frances Donald Cochran, of Statesville, N. C., and Dr. Oscar Lee McFadyen, Jr., son of Mrs. Oscar Lee McFadyen, Sr., of Fayetteville, and the late Dr. McFadyen, were married February 23d in Trinity Episcopal Church.

Dr. and Mrs. McFadyen left for a ten days' wedding trip to points North and then will be at home in Durham, where Dr. McFadyen is a member of the staff of Duke University and Duke Hospital.

DIED

Injuries received when he slipped and fell while walking in a State Colony Hospital corridor caused the death March 1st of Dr. Thomas McMurray Armistead, Jr., 30, member of the Lynchburg (Va.) State Colony staff.

Dr. Armistead was a graduate of Hampden-Sydney College and the University of Virginia, and served in St. Elizabeth's Hospital, Richmond, as interne, and in Norfolk General Hospital as resident physician before joining the colony staff in 1943.

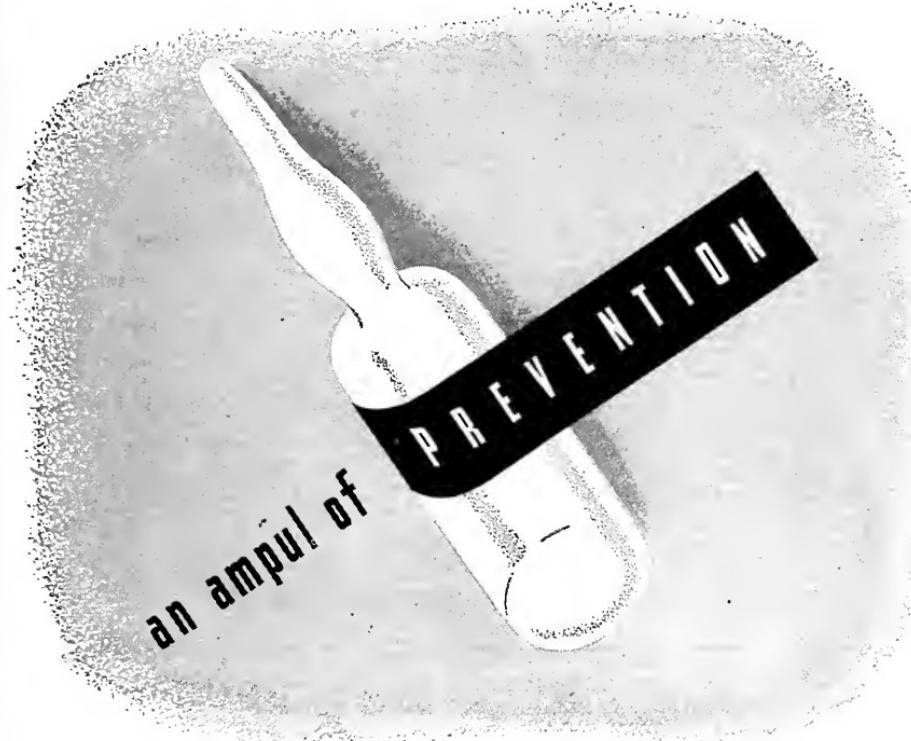
Dr. Celus Gregory Ferebee, 69, of Morehead City, N. C., died March 2nd ten days subsequent to a stroke of apoplexy. He was graduated from the Medical College of Virginia in 1902, serving his internship at Old Dominion Hospital in Richmond, Va., and C. & O. Hospital, Huntington, W. Va. He practiced medicine for a number of years in Camden County. In 1922 he removed to Morehead City, where he had carried on his practice till ten days before his death.

PROFENIL—A NEW ANTISPASMODIC

(Samuel Weiss, New York, in *Review of Gastroenterology*, Nov.-Dec., 1945)

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CONTRARY TO POPULAR OPINION, the incidence of coronary disease is no greater among men in the medical profession than it is among the laity.—S. A. Levine & J. A. Hindle.

BOOKS

CLINICAL ELECTROCARDIOGRAPHY, by DAVID SCHERF, M.D., F.A.C.P., Associate Professor of Medicine, and LINX J. BOYN, M.D., F.A.C.P., Professor of Medicine, New York Medical College. Second edition; 245 illustrations. *J. B. Lippincott Company*, E. Washington Square, Philadelphia. \$5.00.

First the authors give us an understandable discussion on the electrocardiograph and the principles on which it operates, the electrocardiogram by the various leads, variations in the normal electrocardiogram and methods of its analysis. Part II considers the variations of the ventricular complex and their significance — bundle-branch block, axis deviations, arborization block, the abnormal S-T interval and T wave, abnormal functioning of the endocrine glands, avitaminosis, coronary thrombosis and myocardial infarction, cardiac injury and trauma, pulmonary embolism, tachycardia, exercise tests in the diagnosis of coronary thrombosis. Part III considers extrasystoles, fibrillation and flutter, disturbances of stimulus conduction, atrioventricular rhythms and arrhythmias. Part IV is devoted to differential diagnosis of myocardial damage and arrhythmias.

The book is the clearest expression of the whole subject of electrocardiography in its practical application to the problems of the physician that

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GROUP PSYCHOTHERAPY, THEORY AND PRACTICE, by J. W. KLAPEMAN, M.D., Faculty Member, Northwestern University Medical School; Member, Board of Psychiatry and Neurology. *Grune & Stratton*, New York. \$4.00.

King Saul rallying his troops to defeat the formidable Philistines, Xenophon marching his men back to Greece, Socrates and his pupils in their peripatetic discourses . . . attest to the potency of mass suggestion and mass identification directed toward a given and specific end—all these are cited as examples of influence exerted over masses attesting the potency of mass suggestion.

Comment is made on the quiet and good cheer of psychoneurotic patients treated on large wards of certain hospitals, as contrasted with the mental state of patients treated in private rooms. This difference is attributed to the reciprocal influence of one patient on another. We are told that a theatre exclusively for the treatment of psychiatric disorders and for research was built at Beacon, N. Y., in 1936. A good deal is said in a rather vague way about *Alcoholics Anonymous*. We are reminded that whatever the individuals' occupation, education or mode of life, their presence in a group causes them to possess the collective will—a rather fancy definition of the mob spirit. Group psychotherapy is represented to be as feasible and as successful in private practice as elsewhere. But it is said that group therapy should not supplant but supplement individual therapy. The maximum number in a teaching group is given as from eight to 20.

BITS OF CARDIAC FOLK-LORE

(J. D. Rolleston, in *Proc. Royal Soc. of Med., Lond.*, Jan.)

For the beating and palpitation of the heart, Moncrief recommends "chiefly the bone of the Heart of a Hart or Stag made in Powder taken with Rose water and Wine and the Heart of an Ox steeped in white wine and then distilled."

According to Hovorka and Kromfeld a gold plate attached to the cardiac region drives away palpitations and makes the patient cheerful.

Dingwall relates the case of "a man in Kenlochewe, who was told by a wise woman that his cattle suffering from pestilence would only be cured if he got the heart of a man who did not know his parents, dipped it in a bucket of water and sprinkled the cattle with the water. A pedlar came his way shortly afterwards. The cattle man murdered him, got his heart, and cured his cattle; but the disease was transferred to his family."

Democritus is quoted that a quartan fever is effectually cured by attaching a crocodile's heart to the body with the wool of a black sheep without a speck of any other colour,

due care being taken that the sheep was the first lamb weaned by the dam.

Bonnerjea says that in East Prussia there is a belief that if the heart of an unborn child is carried on the person it is sure to bring about complete success in the thieving profession. From George Wales' *Book of Cures*: "If any one swallow the heart of a swallow, or a weasel, or a mole while it is still warm with natural heat, it shall help him for remembering, understanding and foretelling."

According to Pliny: "It is asserted that the heart cannot be burnt in those persons who die of cardiac disease and that the same is said of those who die by poison."

In Orkney and Shetland the inhabitants believe that if any person is emaciated the heart is worn away. By melting piece of lead and throwing it into cold water, if it takes anything of the shape of the heart, it is decided the person is not altogether gone and will recover.

In the Highlands the mother's sudden death in pregnancy is attributed to "the bairn pittin' up its hand and grappin' its mother's heart."

Sir Thomas Browne showed that there is no anatomical foundation for the belief that there is a small vein, nerve or artery running from the left finger to the heart.

As the heart is regarded as the seat of life, soul, wisdom and similar virtues, savages devour the hearts of their enemies so that these qualities will pass into them.

AN EVALUATION OF THE PRESENT STATUS OF THIOURACIL THERAPY IN THYROTOXICOSIS

(Marie L. Carns & R. F. Poser, Madison, in *Wisec. Med. Jl.*, Feb.)

Much more study seems necessary before time-proven methods should be wholly or considerably replaced by thiouracil therapy. For the present it is indicated only in a limited number of cases; but if carefully supervised, it offers the best preoperative preparation in these few cases. This opinion may well have to be revised should a similar drug, devoid of the possible serious toxic reactions of thiouracil, be found, or should a means of desensitizing patients to the drug or of successfully counteracting the toxic reactions, be discovered.

UROLOGY AWARD—The American Urological Association offers an annual award not to exceed \$500 for an essay (or essays) on the result of some specific clinical or laboratory research in Urology. If the Committee on Scientific Research deems none of the offerings worthy, no award will be made. Competitors shall be limited to residents in urology in recognized hospitals and to urologists who have been in such specific practice for not more than five years. Write the Secretary for particulars.

Essays must be in the hands of the Secretary, Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee, on or before July 1st, 1946.

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Sandy: "And why should I put on my kilts?"

MacDougal: "Dinna ye know? 'Tis a free day for ladies."

Many a go-get'er is afterwards sorry that he went and got'er.

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JAMES M. NORTHINGTON, M.D., Editor

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No. 4

Why All States Need a Basic Science Law*

W. THOMAS BROCKMAN, M.D., Greenville, South Carolina

President South Carolina Medical Association

IF I had had an easy way to make the change, I would have talked to this group about our duty, as I see it, in regard to this emergency treatment of veterans. I hope somebody will talk about that.

As you all know, the Veterans' Administration is urging all kinds of state organizations to arrange some program to handle these veterans that are coming home. So far, only three states have done something about it: Michigan, California and Kansas. I don't know of anything that is more important for us to talk about.

This subject I am going to talk about is an important thing for us in North and South Carolina. As I understand it, Virginia has this Basic Science Law already. I am glad to pay tribute to you for being one of the seventeen states having this wise and beneficial law.

For its own protection, the public should be well acquainted with the method of selection, the qualifications required, and the licensing of men in medicine, and the reasons why the medical profession opposes the quack, the cultist, and the irregular practitioner. The public should know the motives actuating those who emphasize the necessity of a basic scientific education before entering or practicing any branch of the healing arts.

I am in favor of a basic science law which ignores all medical dogmas and cults; which establishes an impartial, nonsectarian board of examiners in the basic sciences, anatomy, physiology, pathology, chemistry and bacteriology, and requires

that each person who desires to obtain a license to treat human beings, as a first step toward obtaining license, appear before that board and demonstrate his proficiency. Only after having obtained from the board a certificate of proficiency in the sciences named can the would-be practitioner appear before the professional board of his choice for an examination to determine his ability to apply his knowledge professionally.

Let us notice the part that science has played in the development of the greatest of The Arts—Medicine.

Perhaps your great-great-grandfather was a doctor, but he never went to medical school. He may have been a preacher or a blacksmith, who bled people and pulled teeth on the side. Perhaps your great-grandfather was a doctor and was graduated in 1821. He bled and he blistered and he puked and he purged—and this was about his armamentarium. He didn't even have ether or chloroform.

Perhaps your grandfather was a doctor, graduated in 1857. Bacteria were unknown. His appendicitis patients died of "cramp colic" and "locked bowels." He didn't know that tuberculosis was communicable. He did not have a fever thermometer.

Perhaps your father was a doctor, graduated in 1884. Diphtheria was rampant and deadly and so was typhoid fever. He did not have vaccines for his patients, nor thyroid extract, nor adrenal, nor pituitrin. Blood transfusion had been tried more than a half century before; and had been outlawed

*Presented to the Forty-seventh Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, held at Richmond, February 25th and 26th.

because of its fatalities. He did not have an x-ray machine. Radium had not been discovered. He did not have local anesthetics. He could not even make a blood pressure reading. Pathological and clinical microscopy were just beginning. He did not know that yellow fever was transmitted by mosquitoes; he had never heard of hookworms.

Many of you are acquainted with doctors graduated in 1900. No one of these had insulin for diabetes, nor liver extract for pernicious anemia, nor scarlet fever serum nor the malarial treatment for paresis, nor a host of other things.

Yet, in a little more than a century, the medical profession has done more for the race than has ever before been accomplished by all other bodies of men. These gifts to the people have come in the form of vaccination, sanitation, anesthesia, antiseptic surgery, the new science of bacteriology and the art of therapeutics. The increase in scientific knowledge of the human body has been marvelous, and the understanding of the cause and cure of many diseases has made tremendous strides.

What is the cause of all this comparatively recent burst of progress. The reason is evident when we realize that during this same period there has been an enormous increase of scientific medical education.

In pioneer times, a basic scientific education was regarded as a luxury beyond the dreams of most students of the art of healing. Thousands of youths became physicians and surgeons by entering the office of a busy practitioner. It is scornfully asserted that they studied medicine by sweeping out the office, running the doctor's errands, polishing his instruments, and holding his horses. Is there any wonder that little medical progress was made?

If a Basic Science Law is put into force in North and South Carolina, we will know, without looking further into the matter, that every person engaged in the healing art has presented the necessary qualifications, has done the required amount of class work, has attended the requisite number of clinics, and has successfully passed his final examinations to the satisfaction of the school authorities and of the State Health Boards.

The purely scientific side of the art of healing—investigation, research, discovery—is a field in which genius can find all the intellectual and other satisfaction that even it can hope for. The problems are as intricate as any that concern man. The solutions of these problems offer rewards in service to mankind that are among the greatest that altruism can wish.

Fortunately, the possibilities of investigation and of discovery are not confined to a few great men.

Every patient is a new problem. In the healing arts, more than in any other vocation, the rank and file, if they have a background of basic scientific education, are constantly stimulated by their experiences to develop new ideas, and to every practitioner is occasionally presented the opportunity to, from some chance observation, develop some great improvement in practice. However, unless they have a basic scientific education, they will fail to recognize their opportunities to make a great contribution to humanity.

The objection might be made that too much emphasis upon scientific education will blind the practitioner to the "human" side of the art of healing. Such, however, need not be the case. Instruction in the sciences can be correlated with history to show how man's increasing knowledge of the physical order has affected his health, his industries, his intercourse with his fellows in war and peace. Much can be made of the biographies of men who have contributed to the common heritage. Thus, scientific students may appreciate the dependence of past and present upon the efforts of those who have gone before, catch the inspiration of lives, dominated by lofty ideals, profit from the secret of their success, and remember the undying contributions of the heroes of peace.

A scientific course can clarify the student's understanding of the meaning of law, inasmuch as the natural sciences deal with a realm of eternal principles which the caprices and feelings of mankind neither create nor alter.

In the daily methods of science study, attention is directed to the importance of open-minded investigation, the need of reserving one's judgment until one possesses the necessary facts; and to the duty of reporting observations accurately.

In view of these considerations, it may be plainly seen that a Basic Science Law enacted and enforced by North and South Carolina could not fail to greatly increase the number of practitioners in the art of healing capable of making valuable contributions to the scientific progress of their profession, and, at the same time, to raise the professional ethics and the human understanding of all doctors.

It is the duty of each citizen to take a constructive interest in the cause of healing and rally to the support of a measure that will elevate the standards of those who guard one of our most precious possessions—Health.

I am strong in my faith and firm in my convictions that you will aid, through your demand that a National Board be selected to certify a man's ability to enter the healing profession.

Discussion

DR. C. W. EVATT, Charleston:

I want to say a word of appreciation of what the essayist has brought before us. I have been up in New York and found that the folks there are having to fight retrogression. They can't have a real medical school in New Jersey because of a law which has been on the books for hundreds of years. They do have a little medical school, but the students have to go to New York to study anatomy, physiology, and pharmacology; and they are really having to fight to overcome all this.

We are not primarily hurt by that kind of thing here. We can use our efforts for progress. These points that Dr. Brockman brings before us comes close home to us in Charleston.

I have known within the last two years of two patients who have had their necks snapped by some of our friends licensed to practice in the healing arts. There was no training in fundamental anatomy. We frequently see hypertensive patients, diabetic patients, who were told by some of those licensed by the state as "Doctors" that there was nothing wrong, so they would go along with the drinking and the making merry, and the next day they would fall down in a coma. If they had stayed with their regular doctors, who had told them that they had diabetes and who had treated them for diabetes, they might have been living useful lives for a long time.

The same thing is going on in any community of any size in Virginia and the Carolinas. I don't know about the basic law in Virginia. It is a progressive idea and I do hope that some men will give it discussion before we leave here and do something about it when we go back to the legislators and let them get busy.

Dr. Hall is one of the most brilliant men I ever knew, and I know we would all like to hear from him on this subject.

DR. JAMES K. HALL, Richmond:

Mr. President, I am always impressed by my ignorance; by the limitations of my knowledge. My thought about this is that we are all ignorant. I have so much respect for the practice of medicine and for the responsibility that is involved in the art, that I have the simple notion that doctors of medicine ought to be constantly schooling themselves in the development of more acute consciousness throughout their lives. I have the feeling that the more the doctor of medicine knows about everything, the better doctor he is.

In Columbia, there is a memorial to one of the greatest men of all time, Dr. James Marion Sims. In spite of his saying that during his student days at Jefferson Medical College he had never seen a sick person, he became one of our greatest doctors. He left South Carolina when one of his patients

died. That depressed him very much. He went south and encountered conditions that had not been attended to. He thought such things as hare-lip and cleft palate should come within the intelligent doctor's scope of interest. Even a country doctor, he thought, should do something about those things. He had pellagra, I think, but he recovered from it.

How important history is! You may remember the upheaval caused in the south, and especially South Carolina, by the occurrence of pellagra there. This disease was said to have never been heard of in this country before. Dr. John P. Grady, Superintendent of the State Hospital at Utica, New York, reported at the American Psychiatric Association's meeting in Washington in 1864, during the War Between the States, the occurrence of pellagra in a patient in his institution in New York State.

Another doctor told of his experience prior to that time when he was abroad and spent sometime in what is called an "insane asylum" in Italy. The doctors there told him a number of patients in the state hospital in Milan, Italy, had pellagra. I think if the doctors in the south had known in 1907 of the pellagra patient in New York State in 1864, they wouldn't have been so disturbed. We doctors ought to be constantly educating ourselves, and we ought to encourage the young women and young men who are going to study medicine to be students all their lives if they wish to be good doctors. We must study at night, learning things we need to know, after all the world has gone to sleep.

I have the feeling sometimes when I read the papers of the doctors of long ago that they might have been better educated than we are now, or that they were more philosophic. They made their diagnoses by the use of their own minds, by the power of their own observations; not by sending a specimen off to the laboratory for some girl to handle, who was neither nurse, doctor, nor scientist. I think too many of our diagnoses are made too mechanically.

When there is sickness in the individual, the whole individual is out of order; the human doesn't get sick by compartments. I think we ought to give thought to the individual in the practice of medicine. I, myself, feel that when a person is physically sick, he is not mentally well. We may find out in the next hundred years or so, that the individual who is mentally not well is also physically not sound.

I think it is our duty to tell young people who are contemplating the study of medicine that it is an unending road and that it is all uphill. Sometimes it leads to the summit on which there is general illumination.

DR. R. B. DAVIS, Greensboro:

We, in North Carolina, have succeeded in arranging for the treatment of veterans by their choice of physicians and hospitals, unless it has been decided otherwise in the last seven or eight days. The only thing now to be decided is the fee schedule. The Hospital Savings Association of North Carolina has contracted with the veterans medical organizations to act as a distributing and disbursing department for the government.

It's all very well to talk about the medical cultists, why they are not qualified and why they should be prohibited from treating the sick of our community. It is not by choice that most of those who seek other help when they are physically ill, do so; but by reason of necessity. Some of yours and some of mine and some of his and some of thine make up the practice of all these. We regular doctors have not wholly adequately taken care of the needs of the sick human being; and this is because of two things. We have not graduated the doctors to take our places when we pass on, and we have not strongly enough emphasized the all-important problem of patient-doctor relationship.

The answer would be for our medical schools to double their registrations, increase their student enrollment from North Carolina, from South Carolina and from Virginia. Dr. Sanger told me here in Richmond, ten years ago, that he had 1400 applications for the Schools of Medicine, Dentistry, Nursing, and Pharmacy of the Medical College of Virginia. The number he could take would be 630.

Two years ago I was talking to Dr. Lynch, Dean of the Medical College of the State of South Carolina, and he said he was just about to get his toe nails cut off right up behind his ears by the Standardization Board of American Association of Medical Colleges because he wanted to add ten students to his school. Last year I talked to him and he said he believed he was going to get by with it. I believe he did. Just think, this was just ten more students than Dr. Wilson, the former president, had matriculated years ago.

Dean Carpenter, of Bowman Gray Medical School in Winston-Salem, told me in 1944 that, if he had not another applicant for his school until 1946, his classes would be filled. The common-sense thing to do, if we are asking the citizenship of our communities to accept us and our treatment and our method of healing, is to be prepared to furnish what they need. Graduate enough doctors and teach enough doctors how to take a history. I don't have any idea how much time is spent in teaching students of medicine how to take a history; but I do know that when the internes come to us in the hospitals, the worst think to ask is to take a history. They are sick and tired of histories. A friend of mine told me he spent a whole month,

after he had graduated from Jefferson Hospital, living in a hotel, paying his own expenses, doing nothing but writing histories, before they would give him his diploma because he hated them so badly while interning. He said he never intended to write another one in any day of his life.

I would rather depend upon making a diagnosis by sitting, listening to the patient tell me how he suffers, when he suffers, and what has made him better and what has made him worse, than to do all the various examinations that you can do.

Let's teach our students to take good histories on their patients. They will find out what is the matter with the patient. Let us graduate enough doctors so the people will not have to depend upon these cults. They are sick, in pain, and want to get well; and you and I fail them, so they run off to the cults. Who are we to blame them? We don't need to waste time running down cults, talking about how ignorant the patients are for going to them.

We need a Basic Science Law but that alone, doctors, will not do. We have got to give the people what they need—and that is *Good Medical Doctors!* When you find medical schools being closed all over the United States and the enrollments of students as compared to the increase in the population so very little, how on earth are we going to give all the people medical service?

Your Basic Science Law is fine, but let those of us who are interested in medical education bestir ourselves and make it possible for the conscientious, energetic, honest young man to become a real medical doctor; and, in time you will see the cults just gradually melt away.

DR. J. M. NORTHRIDGE, Charlotte:

I want to emphasize these points that Dr. Brockman and Dr. Hall have made. I will confine myself largely to a specific point. Under the passage of such a law as the Basic Science Law, there should be requirements that any person who puts himself out as a healer in any department shall pass a comprehensive examination on the basic sciences named. Such a law would do away with all except the deliberate frauds.

It is well to remember that probably one of the most successful frauds (I believe he did go into a decline in his latter days and lose his millions) was Dr. Abrams of California, with his magical box which could diagnose cancer and tuberculosis and syphilis from a drop of blood that was sent on a piece of paper. Abrams was a medical graduate of the University of Heidelberg; so a Basic Science Law will not eliminate all the frauds, but it will eliminate at least 95% of them.

The State of Wisconsin limits the use of the title "Doctor" to the doctor of medicine and the

doctor of osteopathy. The osteopaths have to take this basic science examination so their inclusion is not of a great deal of consequence.

I am sure that there is no way to rid the human mind of its proneness to follow delusions. I heard a North Carolina congressman, now retired (he is a very rich man and just couldn't be bothered with being a congressman any more), state in a medical meeting that he was attended by both his chiropractor and his physician.

One one occasion, a very notorious high-blood-pressure specialist was advertising himself in Charlotte. He was from Atlanta. I saw his advertisement in The Charlotte Observer. I went down to talk with the publisher, one of our wealthiest citizens. When I asked that he not allow his pages to be used to advertise such frauds, he told me, to my utter astonishment, that the Professor was doing a very valuable work, and he cited several of his friends who were patients of such persons.

About a hundred years ago, Oliver Wendell Holmes, who, as you know, was a medical doctor, and at one time professor of anatomy at Harvard, wrote an Essay on "Homeopathy and its Kindred Delusions." In this essay he traced the history of many colossal frauds as to healing, which had imposed on those reputed great. Doctor-Poet-Essayist Holmes concluded with these words: "Neither immaculate honesty, nor vast general acquirements, nor great mental acuteness is any specific against human folly."

The passage and enforcement of a Basic Science Law would go a long way toward keeping the venial and the ignorant from preying on the gullible sick. I would not advocate establishing a national board. I have less and less confidence in what comes out of Washington. I stated in this building in a previous meeting of this Association that I wanted nothing from Washington but postage stamps, and I am back to the same place.

We have another practice in North Carolina, and I suppose in South Carolina, which I have argued against many times. That is the placing the responsibility for the enforcement of the Medical Practice Act on the State Board of Medical Examiners. Why isn't it placed where every other law is—on the police and court officials? Or, if you want to place it in the hands of some medical body, why not in the hands of the State Board of Health? The State Board of Health is a continuing body. Its executive officers are not engaged in the practice of medicine.

A doctor who has accumulated an enormous amount of money running a hospital in North Carolina, was dismissed from his county medical society several years ago, for good and sufficient reason, and the State Board of Medical Examiners

did what the law says it could do. It cancelled his license to practice medicine and operate his hospital. He hired a high-powered attorney, got a lot of delays and continuances until that particular State Board of Medical Examiners went out of office. He kept practicing medicine and running his hospital.

To place responsibility for enforcement of this Act in the hands of the State Board of Health would be best, as it is a body with little pecuniary interest in the practice of medicine, the State Health Officer none at all.

You can pick up a copy of The Charlotte Observer today and there you will see several registered nurses advertising the removal of superfluous hair. The first time I saw that, which was several years ago, I called the attention of the Secretary of the State Board of Medical Examiners to it, and he responded with a rather remarkable statement to the effect that this was done with the endorsement of one of our most prominent dermatologists. What did that have to do with it? It was practicing medicine without a license. The dermatologist didn't have any more power to grant a license to practice medicine than a truck driver or a carpenter.

Dr. Brockman's paper, to my mind, has the solution of at least 75% of the problem, if you could get the law passed and enforced. And if we could limit the use of the title "Doctor" as to persons who profess to be healers of diseases, to qualified persons, that would be a long step forward. To use the title "Doctor" by others than doctors of medicine, as stated by the Attorney General of Wisconsin, doesn't increase their ability to help their patients in these limited fields; but it does help attract patronage.

DR. C. F. BOWIE, Anderson, S. C.:

I hesitate to say anything at this meeting because I am probably the youngest member here. I have been in the war, having just returned. I have been down in Florida where the regular doctors were trying to get a basic law established. I was in California for about three or four years in service, which state is also full of cults; and I don't think that there is even one doctor who, after he analyzes the situation, will not be in favor of a Basic Science Law, because it is certainly the best thing for the people and for the doctor who is prepared to practice medicine.

However, when you start passing a Basic Science Law, you run into plenty of opposition. In Florida, when we first attempted to put such a law through, we raised a little money through the Medical Association. I think every member contributed \$10.00. We sent a lawyer to Tallahassee to get

the law passed. Our friends of the cults there raised their assessment to \$60.00 or \$70.00 apiece. They had a high-powered lawyer in Tallahassee with all the money they needed, so the Medical Association didn't get very far.

The next time we raised our assessment a little, but the thing that got the bill passed was the fact that we had one of the smartest lawyers in Florida representing us; one smart enough to recognize the value of patient-doctor relationship. He found out who was the personal physician of each representative and each senator, and each personal physician, as a scientist, worked on his patient, and so the law was passed.

DR. T. R. LITTLEJOHN, Sumter, S. C.:

The kind of teaching which would make such legislation as this easy should start in the high schools. Instead of giving the students so many subjects that they don't need, why not require the study of the fundamentals of bacteriology and physiology and embryology and biology? I know my boys were more interested in bacteriology, physiology and embryology than they were in mathematics and ancient history.

I agree with Dr. Davis about taking the histories. I would like to tell briefly about two patients I have seen in two different places. Both of these people had more money than illness. At a medical center I saw a woman enter on Sunday afternoon. Monday they made an x-ray picture of her heart and her lungs, then an electrocardiogram. The next day, the gastrointestinal x-ray series was made. It was Wednesday before an interne came around to get the history of the case.

In a hospital in another city I saw one of the greatest physicians in the country sit down and talk to that patient for 30 minutes; and while the patient was going in the room to undress with an attendant, this physician stated that, from the history, he believed so-and-so was wrong with that patient. He said he would make a physical examination as he always did.

Also, there was a man sent in who had some trouble with his head. We thought he had a tumor of the brain; but while the patient was undressing, this physician said, "I think this man has disease of the ethmoid sinus," and went on to say that, though on the report from this doctor and that doctor, he would ignore this and that laboratory finding and also what this particular specialist says, concluding, "So far as I am concerned, from that patient's history, I have made the diagnosis."

The first thing to do when you see a patient is try to go as far as you can toward learning what is the matter with your patient, and have laboratory tests made for definite purposes only. Many years ago in the clinic at the Jefferson Hospital,

a doctor told me that the funds of the clinic had been seriously curtailed by doing unnecessary laboratory work; and that when the patients came to autopsy the diagnoses made with the help of few laboratory tests were just as accurate as those following the use as a routine of everything the laboratory had.

DR. BROCKMAN, closing:

I want to thank you all for the discussion, and want to thank Dr. Davis for saying what I would have said had I changed my subject. I felt that doctors couldn't stoop to meet these cults in any other way, perhaps except through this dignified way of a Basic Science Law. In Greenville, so many young men came to me in the last year and told me some of the serious things that the cults were doing. Then some of my friends there suggested that the only dignified thing that organized medicine could do with it would be to advocate a Basic Science Law.

Some 25 years ago I arose in one of our county society meetings and said that we couldn't afford to go into the ring and fight chiropractors, which was all we had at that time. The public would have thought we were jealous, so we let the thing ride; but with all these boys who have been away returning, we are now overrun with cults.

The cults have now done such terrible harm in Greenville that I felt I would make an effort to curb them. A naturopath in that state is allowed by law to undertake nearly anything the physician can do. He can attend the delivery of babies. A group of young doctors came to me asking: "Why don't you doctors in positions of trust do something about this? We are looking to you. We thought the word doctor meant something." We should be able to limit the use of the name as the State of Wisconsin does.

Regarding the education of more doctors which Dr. Davis spoke of, we in South Carolina are fighting hard for that medical college expansion program in Charleston. We feel the great need of it. I am reliably informed that there is the possibility of six or eight hundred applicants. There are four or five hundred applicants now to study medicine. Sixty is all the college can now accept.

I am like Dr. Davis in the belief that if we train enough good doctors, these cults will fade away. I would like to see a Basic Science Law in all these states for the protection of the young men coming on and even more for the protection of the people. In talking to the layman, I find he is just as enthusiastic about the idea. "Sure," he says, "if he is going to treat us, the doctor ought to know what he is about." The public is anxious to back us up. We just haven't taught them. We haven't kept them up to our standards or our ideas about what high-class practice is.

Synthetic Vitamin-K in the Treatment of Urticaria*

KATHARINE B. MCINNES, M. D., Columbia, South Carolina

URTICARIA has long been recognized in medical literature. Hippocrates described urticaria due to mosquito bites and gastro-intestinal disturbances. Sydenham described urticaria in 1685 like "the stinging of nettles." Bateman in 1814 recorded his observations that urticaria was frequently produced by shellfish. It was in 1907 that Albert Wolff-Eisner, working in Berlin, suggested that urticaria might be due to a foreign albumin. Then O. M. Schloss, an American, in 1912, stated that urticaria was associated with idiosyncrasy.

Warren Vaughan states: "either one promptly finds the allergic cause and promptly obtains most satisfactory results, or this failing, it becomes a long drawn out process, sometimes terminating in success, often in failure."

Etiologically urticaria can be divided into five groups: 1—Focal infection (which averages 30% of the cases); 2—Allergic (20%); 3—Endocrine (5%); 4—Psychogenic (18%); and 5—Undetermined (25%).

The pathology in urticaria takes place in the cutis, just beneath the epidermis, and is characterized by increased capillary permeability allowing extravasation of fluid with edema, smooth muscle spasm, and local eosinophilia. The delayed type is characterized by lymphocyte infiltration, and followed by an accumulation of epithelioid cells. The phenomenon is a reversible reaction although some cases are extremely slow in reverting to the original state.

Every physician, whether in a specialty or general practice, is called upon at some time to treat a patient suffering with urticaria or angioneurotic edema. There are all degrees of this symptom-complex, from the occasional whelk to fatality. Sooner or later every sufferer seeks aid from the physician, and every physician has used numerous drugs to give relief. I believe there is no one condition for which more different drugs have been used than for the relief of "hives"—all through the pharmacopeia, from soda to adrenalin and morphine, and all fail at times.

At the 1944 meeting of the Academy of Allergy, Dr. Harvey Black added one more drug to be used in the treatment of urticaria; namely, menadione (2-methyl-1, 4-naphthoquinone, which is synthetic vitamin K). Dr. Black used this synthetic drug in 305 cases over a period of four years and found

that it gave relief in 62 per cent of his cases in which all other methods had failed, and in many cases prevented recurrences. If a recurrence did take place the treatment was repeated, and in no case had it been necessary to give more than two courses of the drug. Dr. Black used 6 mgms. daily—2 mgms. before each meal—for 4 days.

I have used menadione in a series of fifty cases with good results in 70 to 75 per cent of all cases. I use a larger dosage than 6 mgms. daily, giving 20 mgms. the first day and 15 mgms. the second and third days. I was so impressed with the "short cut" that I now employ it almost routinely in all urticaria and angioneurotic edema cases immediately, then go ahead with the investigation. To date no unfavorable reactions to the drug have been encountered.

A few case reports are briefly given to show the differences in the same symptom-complex.

1. White man, aged 45, with generalized urticaria of three days duration following the use of sulfathiazol chewing gum. All forms of adrenalin and ephedrin had given no relief. The second 5 mgms. gave 75 per cent relief. There was a long allergic history but this attack of urticaria was the first and only one to date.

2. White woman, aged 53, had had urticaria every day for more than 20 years. Symptoms ranged from a few whelks to complete coverage of body. She was given 5 mgms. Synkavite every four hours for three days, while awake, and was free of all hives for 10 days, at the end of which time there were a few for several days. Another course was given, with no recurrence for more than one year. This patient was tested and found sensitive to several foods, most of which she is eating without disastrous results though will not try one or two foods which gave very large reactions.

3. White woman, aged 21, had angioneurotic edema of the lids until her eyes were only slits in her face. This was due to nail polish she had applied herself — menadione 5 mgms. every four hours was given and relief obtained.

4. White woman, aged 54, had acute angioneurotic edema of the pharynx. She had a long history of being "very allergic to everything," having hayfever, mucous colitis, and other minor allergies. She was unable to take adrenalin because

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Urological Problems in Transverse Meyelitis*

CLYDE F. BOWIE, M.D., Anderson, South Carolina

SINCE injuries of the spinal cord are increasing with our growing number of automobile accidents, these problems demand studious consideration. It is well known that most patients with transverse myelitis, who survive the initial shock of their injury, die from urological complications. In most instances this has been a comparatively early death. As a rule most of us in the past have accepted this outcome as the best for everyone concerned.

It was my privilege, for over a year, to help care for 70 American soldiers who received severe injuries of their cord resulting in varying degrees of transverse myelitis. After witnessing the enthusiasm for life these men have and what can be accomplished with them, I can no longer tolerate the attitude that an early death is the best outcome.

I will try to discuss briefly the urological problems involved, and relate our experiences with these 70 cases. Later I have some slides showing various gadgets we used and the activities of these men.

Infection is usually the basis of all the urological complications. It is also the most difficult to prevent, but this can be done in a large percentage of these patients. This starts with the immediate care of the bladder. There is a wide divergence of opinion among urologists as to how the problem should be handled. A number advocate that no catheterization or urinary drainage of any sort should be done. They maintain that the bladder will overflow and gradually develop an ability to empty itself automatically. Patients are allowed to go two or three days without any urinary output under this regimen. This group contends, and with considerable evidence to support their contention, that one catheterization is signing the patient's death certificate.

Reasons against this method are: (1) Patients are continually wet with urine and bed-sores become a very serious factor. (2) Bladder may rupture. (3) Bladder muscle tone is completely lost in some cases.

Others advocate immediate suprapubic cystotomy, or immediate insertion of a urethral catheter and continuous tidal drainage.

We regard immediate insertion of a urethral catheter and continuous tidal drainage as the method of choice under ideal circumstances. If this plan is decided upon, the catheter should be inserted with strict aseptic technique, preparing

the genitalia as for surgery and using an instrument to handle the catheter. We prefer a Foley bag type of catheter, usually a size 24. The catheter should not be tight, there should be room for the drainage of urethral secretions at the meatus. A meatotomy should be done if necessary. The catheter should be connected to the tidal irrigator and the drainage allowed to go into a sterile, stoppered bottle. Cystometric studies should be done at frequent intervals to determine the degree of recovery of tone of the bladder muscle, and whether or not there is sufficient contractile power to overcome the resistance of the external sphincter and allow emptying of the bladder. When this happy stage has been reached the catheter should be removed for good, if residual urine is less than 100 c.c. During the period the indwelling catheter is used it should be changed every five to six days. We had only one patient to come into our hands immediately after his injury. He was a soldier who received an accidental gunshot wound of his lower spine, destroying the cauda equina. A Foley bag catheter was placed in immediately and tidal drainage instituted. Early cystometric studies showed a typical atonic bladder with marked increase in bladder capacity; later studies showed increase in bladder tone and the bladder capacity returning to normal. At the end of six weeks his catheter was out and he was emptying his bladder completely.

All other cases we received had either suprapubic cystotomy or an indwelling urethral catheter. None had received tidal drainage for any considerable length of time, for it was not feasible to do this on patients during evacuation from hospitals in the war theaters. Considering the severity of their injuries and the distance of evacuation, most patients arrived in fair condition. The fact that they arrived back in the States alive was due to the excellent care given them by our colleagues at the more forward areas. All of them had grossly infected urine when we received them, which was to be expected. It was noted that patients who had early suprapubic cystotomy arrived in better condition than those with a urethral catheter. During the latter part of the war there was a directive put out to do suprapubic cystotomy on every such patient.

Our first problem was to clear up the infected urine. We used all types of bladder irrigations at first with very little progress. In addition, penicillin, plasma, whole blood and sulfa drugs were given liberally. Streptomycin was used in a few cases with very promising results; however, we

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did not use enough to come to any definite conclusion. We were at first hesitant to use tidal drainage on such grossly infected bladders; however, we were making no progress, and it was decided to try tidal drainage on a few patients. The results were so gratifying that we began using tidal drainage routinely on all cases, no matter how purulent the urine. Under this regimen, gross infection cleared up rapidly. We were particularly fearful of producing an ascending pyelonephritis; but, surprisingly, we did not have a single case which we could attribute to tidal irrigation in a period of over a year. Cultures revealed that more than 90 per cent of our cases had a urea-splitting organism. This organism is one of the most difficult to eradicate from the urinary tract. As soon as the urinary infection subsided, or sooner if indicated, an evaluation of the urinary tract was made. This was accomplished by K. U. B., I. V. pyelograms, and cystoscopic, cystometric and sphincterometric studies. These were repeated at frequent intervals, as deemed necessary, and the catheters were removed and normal cord-bladder action established as soon as possible.

To treat these bladders intelligently, it is necessary to understand the innervation of the bladder musculature and the physiology of micturition. This has been described beautifully by Dr. Donald Munro and others in the literature. Briefly, the normal bladder empties in response to reflex stimulation. The reflex is initiated by some degree of stretching of the bladder wall. Due to the type of muscle in the bladder wall, it fills by alternate stretch and contraction. Micturition is accomplished primarily by two segmental spinal reflex arcs, a central connection to both of these arcs lying in the first, second and third sacral segments. The pathways of the first arc are formed by units of the parasympathetic or pelvic nerves; those of the second by the pudic nerve. The first, a parasympathetic reflex motor response, occurs as a result of the sensory stimulus found in the stretching of the bladder wall. It takes the form of a simultaneous contraction of the detrusor muscle and relaxation of the internal sphincter. This action permits urine to flow into the posterior urethra, where it serves as a sensory stimulus to the reflex activity subtended by the second pudic nerve reflex arc. The motor response of the second reflex releases the external sphincter from its normally contracted state and allows the urine to flow out. Voluntary inhibition of micturition is caused by impulses originating in the cerebral cortex. In addition to these two reflex arcs there are other less well understood neurologic connections.

All bladder activity depends upon the integrity of the segmental reflex arc. Since spinal shock is that condition caused by spinal cord injury of any

type, which produces suppression or alteration of segmental reflex activity below the level of injury, obviously bladder activity is knocked out during this period, regardless of the type of spinal cord injury. The bladder passes through certain constant phases in its progress toward recovery. The cord bladder is, successively, atonic, autonomous, hypertonic, the uninhibited reflex type, and the normal cord bladder. Studies based on observation of normal bladders have made it possible to classify bladder activity in accordance with certain standards. They have to do with the initial and sustained tonus of the detrusor muscle during the filling; the presence of emptying contraction and the optimum storage capacity of the bladder; the absolute amount of residual urine; and the reflex activity of the external urethral sphincter.

In the normal bladder the initial tonus is less than 3 mm. of mercury. The curve of sustained tonus shows a steady rise to 10 to 14 mm. of mercury under a 500-c.c. fill. The atonic bladder shows usually a slight decrease in initial tonus and a flat curve of sustained tonus. The autonomous bladder has a high initial tonus and a steep curve of sustained tonus. The hypertonic bladder has an initial high tonus and a high curve of sustained tonus. The uninhibited reflex and normal cord bladder, except for slight increase in initial tonus, shows no significant change from the normal. In the normal bladder emptying contraction will occur provided they are not inhibited. The atonic bladder never shows any emptying contractions and its storage capacity is limited by the amount its wall will stretch and its sphincter retain. The autonomous bladder shows absent or inefficient contractions, storage capacity is usually over 500 c.c. The hypertonic bladder always shows emptying contractions and storage capacity is usually less than 300 c.c. The uninhibited reflex and normal cord bladder both show the presence of emptying contractions and have a decreased storage capacity.

The normal bladder shows no residual urine. In the atonic bladder residual urine is present up to 80 per cent of the fill. In the autonomous bladder residual urine is usually about 40 per cent; the hypertonic bladder 19 per cent; the uninhibited reflex cord bladder 6 per cent; normal cord bladder up to 16 per cent.

It is obvious that treatment of a cord bladder to be efficient must vary with the type of bladder to be treated. If the bladder is hypertonic and has a markedly diminished bladder capacity, the tidal drainage is set so that the amount of fluid going into the bladder is just a little more than the bladder capacity. This is gradually increased until the bladder capacity approaches a more normal figure. In the atonic bladder the level of fluid is fixed at approximately 500 c.c. for tidal drainage

and kept on this until emptying contraction develops. When the emptying contractions and voiding pressure become greater than the pressure of the external sphincter, the patient is allowed to attempt normal voiding. If a suprapubic tube is present, it is clamped off and voiding is attempted. When this occurs and residual urine is less than 100 c.c., the suprapubic tube is removed. In patients with urethral catheter the catheter is simply removed. Following removal of catheter, patients are checked at frequent intervals to determine if residual urine is increasing or decreasing.

COMPLICATIONS

Besides infection in a group of 59 of these cases, we observed renal calculi in 11 cases (18.6%). We feel that this percentage is higher than one would expect in these cases, and that it was due to the long trip home before reaching a hospital for definitive treatment, which was necessary under war conditions. In six instances the stones were in the left kidney—four on the right, and in one, bilateral. It is worthy to note that this group of patients received other severe injuries in addition to their cord injury. Five patients received severe chest wounds involving the lung; three of them had compound fractures of other bones besides their vertebral injury. Only three of these patients had no other injury besides their cord lesion.

Stone-formation was found in this group as follows: 2 cases 6 weeks after injury; 4 cases 3 months after injury; 1 case 4 months after injury; 2 cases 5 months after injury; 1 case 6 months after injury; 1 case 7 months after injury. Few of these cases had early x-ray examinations, so these periods cannot be interpreted as the time of stone formation.

To prevent the formation of renal calculi, we depended primarily on a fluid intake of 3,000 to 5,000 c.c. daily, sufficient to produce a minimum output of 1,500 c.c. All patients were moved every three hours, all were brought to an upright position as soon as possible. An attempt was made to keep the urine acid by acid-ash diet and acidifying drugs.

There is nothing particularly unusual about the pathologic changes these patients developed. Practically all of them are seen in every-day urology; the difference lies in the type of patients; instead of dealing with a more or less normal individual, patients are paralyzed. Because of this the problem is different. The signs and symptoms of disease are different, pain and tenderness are, as a rule, entirely absent. Nausea, vomiting and a temperature of 103 or higher usually means a blocked kidney. To be aware of what is happening in the urological tract, it is necessary to depend on frequent K. U. B., I. V. urograms, and bladder in-

spections, particularly during the stage when the patients are completely bedridden.

It is our policy to be as conservative as possible with surgery in these cases. Open surgery for calculi was delayed if possible until the patient's general condition was built up to par, preferably until he was up in a wheel chair. We felt that if we could wait this long his chances of having recurrent calculi were much less. We did not hesitate to relieve obstruction with ureteral catheters any number of times. This policy was interrupted if at any time we felt that progressive destruction of the kidney was occurring. Solution "G," or citric acid mixture, was used on a few cases, but did not prove satisfactory in our hands. In our experience these patients stood surgery extremely well if too much was not attempted.

Vesical calculi were found in 19, 32 per cent of all, cases. It should be pointed out that we included in this group all calculi that required instruments for removal. Most of them were small flat calcium phosphate stones, others were fairly large. All stones were crushed either transurethrally or through the suprapubic fistula and evacuated.

Severe pyelonephritis occurred in five cases. These responded to catheter drainage, sulfa, penicillin and blood. Surprising to us, we saw only two cases of epididymitis. One patient had a suprapubic catheter, the other a urethral catheter. Each case responded to conservative treatment. We had two cases with urethral fistula. Both had urethral catheters and the fistulas were the results of periurethral abscesses. In routine studies we picked up two congenital anomalies in this group, one consisted of the congenital absence of one kidney, the other a small atrophied kidney on one side.

We had the unfortunate experience of having a severe hemolytic transfusion reaction with complete anuria for 61 hours in one case. Fortunately this patient recovered after renal decapsulation, which was performed 61 hours after onset.

At operation the kidney was found to be markedly distended and cyanotic; when the capsule was incised there was an immediate bulge of the renal parenchyma. After the capsule was stripped from the kidney the color improved almost immediately. Before the wound was closed the kidney had returned to a normal pink color except for a few small cyanotic patches.

SUMMARY

1. Tidal drainage is advocated with an indwelling urethral catheter for care of the bladder in all cases of spinal cord injuries.
2. Tidal drainage was used in 69 cases with grossly infected urine with gratifying results.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

PEACE OR WAR?

"WE CERTAINLY GET NOWHERE with guile in the understanding and control of inanimate nature or in the understanding and control of heredity, health, and disease in living nature. We can, for a time, guide human action by guile and force. Some day our colleagues in the social sciences, by the methods and ethics known to work in the natural sciences, will provide man with data on human behaviour which are as reliable and unavoidable as are the confirmed data of chemistry and physics of today. When that day is here, guile and guess in human relations will surely recede, assuming that man of that era retains present mental capacities."

The quotation constitutes the concluding sentences of the presidential address delivered by Dr. A. J. Carlson at the annual meeting in St. Louis on March 27th, 1946, of the American Association for the Advancement of Science. That meeting of the Association was the annual meeting of 1945 deferred. Most of us know Dr. Carlson as the Professor of Physiology of the University of Chicago. Both his labours and his years now entitle him to the distinction and the reward implied in the adjective *Emeritus*.

As the subject for his presidential dissertation, Dr. Carlson selected a phrase formulated by George Washington in expressing his conception of the function of the democratic political philosophy brought into being by the rebellion led to a successful conclusion under his guidance. In the presidency Washington was confronted by the difficulties involved in making feasible that personal liberty under government for which Patrick Henry had contended so effectively with his great dramatic skill.

George Washington had experienced warfare with the Indians in the wilderness; he had fought as a young officer with seasoned British troops; later he had led against the military forces of Great Britain his own poorly trained and even more poorly equipped revolutionary forces. He succeeded finally in overcoming the enemy and in driving them out of our country.

On the march and on the field of battle George Washington was not lacking in capacity to deal with the situation. His unfailing good sense, his imperturbability, his sound judgment and his grim

determination made him master always of himself and the inspirer of those whom he commanded.

But Washington probably discovered during the postwar period that man singly and in groups releases his energy more easily and perhaps more naturally and probably more enthusiastically in attempting to destroy his enemy than he makes use of that same energy in restorative and in constructive work in that period that comes always after each war. Soon after Yorktown, George Washington was presiding for many weeks behind closed doors over the Constitutional Convention engaged in an effort to fabricate rules and regulations that have come to be known as the Federal Constitution. At the conclusion of that assemblage Washington was placed at the head of the civil government. The hope and the prayer he voiced was made use of more than a century and a half later as the subject of the address of the President of the American Association for the Advancement of Science. The President of that Association was born in Sweden, under a monarchical government, from which he came as a young man to the world's most clamorous democracy. Here the young Swede, Anton Julius Carlson, has steadily developed, chiefly by his own efforts, into a scientist now known 'round the world for his patient and intelligent and honest and fruitful labours mostly in the domain of biology. In his senescence the erudite but simple and modest physiologist borrows for the caption of his presidential address not words written by a fellow-scientist. Instead he borrows and he analyses and philosophises about the meaning and the pragmatic value of a sentence composed by a countryman, academically unlearned and without scientific pretensions. Washington said: "Let us raise a standard to which the wise and honest can repair; the rest is in the hands of God."

Dr. Carlson asks if there is such a standard; if its use can be agreed upon. And he asks who are the wise and the honest. Think upon this sentence of Dr. Carlson's: "However, on the basis of my understanding of man and my acquaintance with human history, I have also advocated in the past that a man's social responsibility is commensurate with his understanding of man and nature." Especially those engaged in work in chemistry and in physics and in engineering are praised and blamed, in Dr. Carlson's opinion, for producing during the recent war better and more efficient weapons of destruction. Dr. Carlson objects to the prevalent substitution of hysteria for history and of sentiment for science. Science is as much a part of nature as are the sunshine and the tornado. The attempt to retard or to abolish science would carry with it fundamental modification, if not destruction, of man. Science is the product of human curiosity. Unwise political action, in war and in

peace, may profoundly affect science adversely. The scientist must function in physical and in mental freedom.

Is war a biological necessity? Is it helpful to progress? Does warfare call out the relatively unfit and leave as survivors the more robust and adequate to bring forth more wholesome offspring? On the contrary, war calls into battle those most fit to live; it destroys many of them and returns many of them permanent derelicts. War has been largely eliminated between individuals, as in the duel; and between small groups, as between families. There is no valid reason why war cannot be abolished.

Dr. Carlson believes that warfare has its origin in greed, vanity, suspicion and fear. The utilization of intelligence in reaching an understanding of the nature of the urges that impel to war should enable national groups to live in harmony with each other. Dr. Carlson speaks of his Viking ancestors as the scourge of Europe not so many generations ago, invading, robbing and killing without restraint. But the present-day descendants of those ruthless killers have brought their energy under control and they now make use of it constructively and not destructively. The Scandinavians by the exercise of understanding and self-control made of themselves an unwarring people.

Dr. Carlson boldly states that in his own opinion dishonesty is the principal obstacle standing always in the way of permanent peace. Man is lacking in honesty both in dealing with his fellowman and with himself. If the peace conferences are to exercise wholesome and lasting influence, artistic and even all of the ordinary forms of lying habitually indulged in at such assemblages must be given up. If war is to cease to be an instrument of destruction recurrently made use of by man against his fellow, man must first deal honestly with himself before he finds faults in his neighbour. The present human race on this earth is one biological species. There is no valid scientific basis for the belief or the superstition of superior and of inferior races of men.

Man must either think tolerantly of his fellowman and deal honestly with him or man must continue to be the victim of recurrent war, each more destructive and more barbaric than its most recent predecessor.

Science, the official publication of the American Association for the Advancement of Science, carries the full text of Dr. Carlson's address in the issue of March 29th, 1946. His address will bear re-reading, with preservation for subsequent study.

IT IS WELL to remember that the earliest and most marked indication of cervical rib may be atrophy of the small muscles of the hand.—H. A. Christian.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

IMPLICATIONS OF HEMATURIA IN PROSTATISM

SPONTANEOUS HEMATURIA, sometimes of alarming proportions, is a frequent and often the chief symptom of hypertrophy of the prostate. Hematuria may result directly from the enlarged prostate or may arise outside of, but may be attributable to, the prostate or may be an independent accident not related to the pathologic condition of the gland. In the first instance bleeding is from the mucosal ulcerations that result from pressure of opposing lateral lobes or from ruptured varices in the prostatic urethra. Cystitis due to and aggravated by urinary retention from vesical neck obstruction by an enlarged prostate is the most frequent cause of extrinsic bleeding.

With these statements of Lazarus¹ most of us agree but this fact is not universally appreciated. Lazarus goes on:

Benign or malignant tumors located in the bladder are the principal sources of hematuria of other than prostatic origin. In any case, stress is placed on the importance of cystoscopy in establishing diagnosis, for appraisal of the anatomic relations of the prostatic involvement to the bladder neck, vesical lumen and prostatic urethra, and for discovery of stones, tumors or diverticula. The examination may be extended to the ureters and kidney pelvis if no obvious cause for the bleeding is found in the bladder or prostatic urethra.

Cystoscopy is usually possible, even the patient with an enlarged prostate and a tortuous, elongated urethra, with a No. 21 convex cystoscope, if the urethra is well protected with novocaine. The bladder should be thoroughly cleansed of turbid urine and blood clots and distended sufficiently to smooth out folds and trabeculations, to open the mouths of diverticula and to expose all portions of the bladder. The beak of the cystoscope should be introduced into the neck of each diverticulum so that the interior may be visualized. Visualization of the trigone, interureteric ridge and ureteric orifices is facilitated, especially in the patient with a hypertrophic median lobe, by sharply elevating the ocular end of the instrument.

Use of the retrograde telescope will permit observation of the part of the bladder behind the prostate surrounding the vesical neck. When calculi complicate the case the position of the patient should be changed frequently in order to dislodge concretions, so that stone-concealed portions of the bladder mucosa may be inspected.

1. J. A. Lazarus, New York, in *Jl. Urology*, 54:531-538, 1945.

Because blood may come from more than one source, excretory and retrograde pyelograms are advisable. Biopsies should be made of all bladder tumors. Complete blood and platelet counts are mandatory diagnostic tests, as are blood chemistry determinations, particularly urea nitrogen, creatinine and urea clearance. Urine culture should be a routine procedure. Ophthalmoscopic examination, particularly in hypertensive patients, may reveal chronic glomerular nephritis as the cause of unexplained hemorrhage from the urethra.

TREATMENT OF EPIDIDYMITIS

GONOCOCCAL INFECTION, either recent or latent and recurrent, is responsible for many cases of acute epididymitis usually described as nonspecific. Sulfathiazole therapy readily restores patients with either gonococcal or nonspecific epididymitis to full physical capacity and reduces the recurrence rate.

Of 98 patients admitted to a British Army venereal disease center with acute disease of the scrotal contents and successfully treated with sulfathiazole, 62 had evidence of either active gonococcal infection or previous gonorrhea.¹ The period of hospitalization was usually less than 10 days. The disease recurred in only five cases complicated by urinary infection. Fifty-eight patients in whose urethral smears or urinary deposits no gonococci were found had had gonorrhea previously; this number might have been found greater with more complete or prolonged investigation and greater frankness on the part of the patients.

Treatment comprises 20 Gm. of sulfathiazole given by mouth for three days, with abundant fluids. The patient is kept in bed during the acute phase of the disease. Bed patients wear T-shaped binders for scrotal support, and ambulatory patients wear suspensory bandages. Discomfort in extremely acute cases is alleviated with kaolin poultices. Even gentle rectal examination must be strictly forbidden to prevent traumatizing the urethra, prostate and vesicles.

1. (S. M. Laird, in *Lancet* (Lond.), 249:670, 671, 1945.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

MEDICATED CHEWING GUM PREVENTS DENTAL CARIES

ENCOURAGING results are reported from Northwestern,¹ such as to make it well worth while to advise the use of the preventive measures to be described.

From the greatly reduced incidence of new carious lesions among the subjects using the vitamin-K gum it appears that the dispersion of the syn-

thetic vitamin-K throughout the mouth during the time when acids are likely to form will aid materially in the prevention of decay, even in the presence of considerable sugar. While the neutralizing effect of calcium carbonate filler was considerable, the difference between the vitamin-K group and the regular gum group shows that the enzyme inhibitor was much superior.

Chewing gum is a good vehicle because of the dispersal of the vitamin in the mouth through the action of mastication, the cleansing effect of the gum, the stimulation of alkaline saliva. The material could be placed in mouth washes, dentrifrices, and possibly in sugar and syrup. The most important thing is the further light shed upon the mechanism of dental caries, and the substantiation of the theory that an enzyme inhibitor, if present during the periods in which acids would normally form, should inhibit the formation of acids and hence inhibit the initiation of decay.

The decrease of caries activity produced by the vitamin-K is far greater than that observed after the prolonged use of fluorine in drinking water by persons previously susceptible to decay. It is possible that if the concentration of fluorine in drinking water could be increased without harmful effects a greater inhibition of caries would be observed. However, such increase appears to be impossible and it is to be hoped that some other stable compound will be found which can be used in adequate concentration in drinking water.

Except through an agent placed in drinking water or in some other universally used substance, the possibility of controlling caries in very large groups is remote. Any method of control which will be successful only if the individual systematically follows instructions, can work only in small groups. This is the difficulty with caries control methods such as elimination of fermentable sugars from the diet, oral hygiene, and medicated chewing gum, though the last offers more promise because of the great popular use of gum. Until public health studies such as those now under way on the use of fluorine provide a method of caries control which does not depend upon the individual, it will continue to be necessary to use all available methods of caries control wherever possible.

Synthetic vitamin-K may have little or no effect in retarding the progress of decay in lesions already well started. An enzyme inhibitor does not prevent acid formation, but only decreases its rate. The rate may be slowed to such an extent that the saliva can neutralize the acids as fast as they are formed on an undecayed surface of a tooth, or can wash out the substrate before appreciable amounts of acid are formed, while in a pre-existing cavity, because of the mechanical protection afforded, the inhibition may not be sufficient to

1. D. Y. Burrill et al., Northwestern Univ. Dental School, in *J. Dental Research*, Dec., 1945.

permit such neutralization and dissipation, so the caries process continues.

The occurrence of new decay and the progress of old decay were studied radiographically and clinically over a period of 18 months in two groups of volunteer subjects and one group of persons not actively participating in the experiment. Commercial chewing gum, each piece containing 0.75 mg. of 2-methyl-1, 4-naphthoquinone-sodium bisulfite addition compound (synthetic vitamin-K), plus calcium carbonate filler, was chewed for at least 10 minutes after each ingestion of food over a period of 18 months by 58 individuals.

The same commercial gum, containing the calcium carbonate filler but not the synthetic vitamin-K, was used in the same manner and for the same time by a like group of 45 subjects. No gum was provided for the group of persons not participating in the experiment. No restriction of diet was prescribed.

The vitamin-K gum reduced the occurrence of new cavities 60 to 90%, depending on the basis of comparison.

The gum containing calcium carbonate without vitamin-K reduced the occurrence of new cavities half as much as the vitamin-K gum. The vitamin-K gum probably did not inhibit the progress of caries already present.

No effects contraindicating the use of synthetic vitamin-K were observed.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

THE MANAGEMENT OF COMMON SKIN DISEASES¹

A GOOD DEAL can be learned from a careful examination of the *entire* skin in a good light; examination of the scalp, mouth, genitalia, or palpable lymph nodes may provide collateral information. The disease may be an irritation, an infection, an infestation, a nevus, a keratosis, or even a malignant lesion. There may be characteristic signs of such disorders as psoriasis, lichen planus, pityriasis rosea, or eczema, and one may suspect internal relationship but cannot prove it. The skin frequently reflects significant constitutional disturbances by means of changes in pigment, signs of deficiency states or metabolic diseases, or the eruptive forms of infectious granuloma.

The most common skin disease is eczema. The term denotes a state of sensitization and the reaction affects the epidermis in contact dermatitis, or the cutis in atop dermatitis of an allergic diathesis. There are other varieties of dermatitis to confuse the picture.

It is more important to relieve the distress in the skin than to prove an academic point. Patch tests of dermatitis should not be done during the acute stage of dermatitis because the adhesive tape and the irritant may provoke an exacerbation and generalization of the process. No internal medication is effective in treatment of acute dermatitis, although intramuscular injection of the patient's own blood is widely used and the administration of acetyl salicylic acid by mouth reduces the itching. Sedatives of the barbiturate type should not be given. In cases of dermatitis due to poison ivy, ragweed or other plants it is not wise to use injections of antigenic oils during the acute phase for such agents often lead to a generalized flare. In some circles, there is enthusiasm for such antigenic extracts in the prevention of plant dermatitis by immunization, but the beneficial effects are still debatable.

(The Editor, from experience in his proper person, endorses the last statement.)

In the treatment of acute dermatitis which affects much of the body, the skin can be cleansed and pruritus relieved by immersing the patient once or twice a day for a half to two hours at a time, in a colloid bath of boiled cornstarch-soda paste, or in a bath containing boiled oatmeal-soda gruel in a bag. In the acute stages, there is nothing better than the application of wet dressings to the affected parts. Several layers of loose gauze are saturated and squeezed partly dry; if the dressings are too wet, the skin becomes soggy; if they are too dry, the gauze adheres to the surface and the dried exudate prevents contact of the medicine with the skin. Do not cover the bandage with oiled silk or rubber-dam, for this interferes with ventilation. Wet and replace dressings at intervals of four hours, allowing a short period between changes for drying of the skin. The most common preparations in general use are: a 0.5% solution of aluminum subacetate, a saturated solution of boric acid, a 1:1,000 solution of silver nitrate. If secondary infection is present, the best is a solution of potassium permanganate (1:10,000) or one of penicillin (250 units per c.c.) or Alibour's solution (stock solution: copper sulfate 1.2; zinc sulfate 2.4; camphor water to make 120.0). For use, one ounce (30 c.c.) of this solution is diluted to one pint (500 c.c.) with water. If the hands or feet are affected, they should be immersed in a basin of the solution morning and evening for 20 to 30 minutes at a time. In cases in which the legs and feet are involved, edema usually is a complication; in such cases, there is no substitute for rest in bed with elevation of the affected parts.

As the acute phase subsides, the application of wet dressings may gradually be reduced to two applications or less each day, switching to drying

¹ L. A. Brunsting, Rochester, Minn., in *Jl. Okla. State Med. Assn.*, April.

lotions and emollients in the intervals. There is no universal remedy that will soothe the sensitive skin; there is a wide variance among individuals in tolerance, and this changes from time to time. Some of the useful preparations are calamine lotion plus an added film of cold cream, zinc oxide ointment containing 9% of ichthyl and an oily lotion such as: menthol 0.6, phenol 4.0, olive oil 120.0, lime water 120.0 and zinc oxide 20.0.

A familial atopic dermatitis is a common phase of the allergic diathesis in infancy, childhood, adolescence; and, at intervals, in adults. The underlying biologic alterations are difficult to understand and, for the present, the treatment must be symptomatic.

Positive reactions are obtained by the scratch or intradermal technic in a high percentage of instances, and on the basis of such information there have been proposed many procedures of elimination and desensitization, on the whole with unsatisfactory results and often not without detriment to the general health. When the disorder occurs in childhood, one can predict a long course of ups and downs, and it is often more important to treat the parents than the patient. The obvious external and dietary irritants should be removed. In some instances, change to a climate which is at all times sunny and equable is in order.

In some forms of chronic eczema pine tar 2, salicylic acid 2, and zinc oxide ointment 96; or White's crude coal tar ointment is quite useful. Ultraviolet irradiation and sunlight are valuable aids. We must proceed by trial-and-error toward the relief of symptoms.

For a time, sulfathiazole and sulfadiazine, by topical or internal use, proved to be the most effective remedies available for the treatment of infected ulcers and eczema, impetigo, furunculosis, carbuncle, and even lymphangitis, cellulitis and erysipelas. Gradually, it was realized that these drugs were potent sensitizers without and within; the hazard of their systemic use has become too well known to need emphasis.

Sulfathiazole is without peer in the control of chancroid and is useful in the early stages of pyrophobia venereum. Sulfapyridine—orally 1.0 to 3.0 gm. daily—relieves the symptoms and signs of dermatitis herpetiformis. Untoward reactions usually appear within the first few weeks of treatment, if at all. Urinary calculi do not occur if a liberal intake of fluid is maintained. The milder sulfonamides as sulfasuxidine, sulfaguanidine and neoprontosil are useful in certain cases of pyoderma associated with infection of the bowel, but these drugs too will probably be rendered obsolete when streptomycin becomes available.

Penicillin, in the form of wet dressings of water or normal salt solution containing 250 units of pen-

icillin per c.c., is highly effective in the treatment of pyogenic infections of the skin. It may also be used as an ointment containing 200 to 1,000 units per gram of water-soluble base. These preparations deteriorate slowly under refrigeration. However, they have sensitizing properties and dermatitis may occur, although experience is too limited to indicate the relative index of reaction.

The most common reaction to penicillin is urticaria which affects 5% or more individuals who are undergoing systemic treatment. Vesicular eruptions occasionally occur, and they resemble dermatophytids. Two have been noted of penicillin-provoked, exfoliative dermatitis.

Benadryl, 50 to 100 mg. three to five times daily, is highly effective in controlling the symptoms of acute and chronic urticaria and angioneurotic edema, although the relief is purely palliative. Side effects are not serious; drowsiness, dizziness, dryness of the mouth and dilated pupils may be noted. The drug is given by mouth or by the intravenous or by the intramuscular route.

There are few, if any, common skin disorders which are benefited by vitamin therapy. It is not conceded that vitamin A is beneficial in acne vulgaris. If there is fulminating acne with pyoderma and associated cachexia, the constitutional disorder calls for complete fortification including the use of B complex, plus crude liver extract. Some years ago, it seemed that administration of massive doses of vitamin D was beneficial in psoriasis, but subsequent experience has shown such therapy to be worthless.

There's a lot in this to help you to decide what to do for your patients; there's a lot to fortify you in telling your patients, on the best of authority, that what the newspaper or the Ladies Home Journal says on the subject is not so.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

ECONOMICS AND HOSPITAL DIETETICS

THE OLD SAYING, "Fools rush in where angels fear to tread," is certainly true in connection with the Dietetic Department. In more recent years, dietetics has received more attention, scientifically speaking, than almost any department in the hospital. Many of us who know the least about dietetics are well versed in the art of feeding patients. The author realizes that the Dietetic Department will feel he is treading upon their toes, or at least writing about something that he knows very little about. Well, all of the information that he has concerning dietetics has been obtained through observation and reflection; i.e., through experience.

A great tendency on the part of hospital administrators—whether they be business managers, medical directors, or superintendents—is to assume that any saving of money lowers the standard of service. This is by no means true. An old-fashioned wood stove, used by one who knows the art of cooking, will produce as palatable a biscuit and as sweet a cake as the 1946 electric stove, and much better than the modern equipment when this equipment is used by one who is scientifically trained and does not possess the skill. If it were possible to administer one purgative to entirely eliminate one fault in the administration of the hospital, I would choose that purgative that would completely remove the thought that something has to be the latest model to give satisfactory service. We are daily confused and confounded, persuaded and prevailed upon, that we need a multitude of new pieces of equipment; but never reminded or had it suggested to us that, perhaps the mental equipment of the administrators of the institution might be out of date.

The writer does not presume to be a dietitian; he does profess to be a practical minded hospital trustee and director who has served the apprenticeship from undergraduate internship to chief of the surgical staff; and in these years of observations, he has seen time and again large quantities of well prepared food returned on a tray day after day from the same patient. Upon investigation, it is found that this patient had told the person who brought him food that he could not eat fried eggs, even if they were seventy cents a dozen; that canned tomatoes make him break out with a rash, even if they are the best and dearest canned tomatoes. This wastefulness has been explained to me a lot of times by the graduate dietitian thus: the doctor ordered general diet for that patient and general diet he gets—even if it passes through the patient's room untouched and is then dumped in the garbage can.

Somebody in the line from kitchen to patient should report to the doctor when a tray is returned with the food hardly touched. If the patient just feels bad at that meal time, it could not be foreseen when the meal was being bought and prepared. But a great many trays are untouched because of some reason, sufficient to the patient, does not care for the food or the method of cooking. Scientific buying, coupled with a lot of horse sense, is valuable indeed in the dietetic department. But one of the gains produced in this manner is easily thrown away when the tray comes back untouched. The dietitian should visit every patient who sends back a large fraction of any meal, carrying with her a pencil and pad, and sit down and record the whys of uneaten foods. This simple method would increase the duties of the dietetic department enor-

mously, also, the popularity of that department with the patient would be increased, and it would immensely decrease the cost of food per patient day in the hospital. No patient appreciates any service in the hospital more than that of being served good palatable, enjoyable food.

Another mistake that has been observed by the author has been that of serving the laboring man in the wards the same type of diet as served the private-room patient with different tastes and food habits. The laboring man has been accustomed to have the diet at home that he always enjoys and it does not take a graduate dietitian to determine that he is accustomed to one fork, one spoon and one knife, or that he has no use for salad dishes. Therefore, it is not a matter of cutting a desired service to these patients but of common-sense understanding of what they had rather have, which is what they are accustomed to eating at home. It costs money to buy silver, to buy china and to wash and dry silver and china. This expenditure is not appreciated and not desired by the ward patient; and it is uneconomical to serve the food to them in this manner.

The average working man that occupies the wards and semi-private rooms is fond of bulky food, not highly seasoned, cabbage cooked well done and not steamed for ten minutes, pinto beans soaked over night and cooked for hours. Corn bread, instead of thin-sliced white bread, is the bread preferred. The foods these patients enjoy are cheaper than those eaten by the banker, the lawyer and the preacher; they supply sufficient calories, minerals and vitamins for the most part. A compartment platter with one spoon, fork and knife, is certainly economical and entirely pleasing to the patient in the ward as a rule. These four pieces, plus a cup and saucer or a glass, can be washed and dried and put back in the cabinet easier than ten pieces can be.

All of us in charge of the many departments see this error continue month after month and year after year in our hospital experience. We feel that it would be a 1946 model improvement if the American Dietetic Association would establish various dietetic services for the various classes or groups of patients and, further, that in the place of so much chemistry and physiology, they might teach a "patient contact course" and emphasize the patient as being more important.

TORTULOSIS of the central nervous system is easy to recognize if it is kept in mind and a diligent search is made in the spinal fluid for the causative organism. *It should be suspected in case of otherwise unaccountable, progressive intracranial disease.*

—Bingham, Jl. Bowman Gray School of Med.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., *Editor*, Greenville, N. C.

COOPERATION OF PRIVATE MEDICINE WITH PUBLIC HEALTH

THE COÖPERATION which we are about to describe between the private practitioner and the local health department may not be unusual in some parts of the State, but we believe that it is sufficiently unusual and sufficiently significant for us to bring it to the attention of the readers of this journal.

As everyone knows who gives it any thought at all, the public school is the center where a public health department can put in its most effective preventive medicine program.

As a rule the health officer conducts the preschool clinics, which means he is seeing the child for the first time and is attempting on a single visit to evaluate the child's physical status. And in addition, each child is a patient of some private physician and the health officer's opinion may not coincide with that of the family physician.

In order to overcome these and other objections, we requested the Pitt County Medical and Dental Society to assist us in this clinic work. Accordingly, the Society at its meeting March 14th, passed the following resolution: "The Public Health Relations Committee of the Pitt County Medical and Dental Society recommend to the members of the Society that they assist in the examinations in the preschool clinics in so far as it is practicable for them to do so." The members have very promptly agreed to participate in the clinic work. The clinics begin April 9th.

Another significant resolution passed by the Society at this meeting was as follows: "The Public Health Relations Committee of the Pitt County Medical and Dental Society recommend that the Society vote its approval of a plan for the correction of physical defects in school children."

We are not able to give the details of this plan at present, but in general, it means that the private physician and dentist will coöperate with the Welfare Department and the Health Department in bringing corrective work to *all* school children.

We don't know what the Medical Societies have done in other counties of the State but we feel that the Pitt County Medical and Dental Society in the actions here taken is doing much to forestall outside interference with local medical and public health problems.

We should be more than pleased to hear from any doctor in the State as to what is being done in his own county along this line, with his comments as to the advisability of such a program.

PROCTOLOGY

RUSSELL BUXTON, M.D., *Editor*, Newport News, Va.

RECTAL BLEEDING

OF ALL CONDITIONS which bring a patient to a doctor promptly, a large initial bleeding from the rectum is probably the most common. Generally the patients are terrified by this sign and seek medical aid promptly. Too often they are treated without examination by explaining away the occurrence as probably being due to piles. The fact that this is the most common cause of rectal bleeding does not excuse the physician from making a thorough examination. It is essential that a rectal examination be made in all cases of bleeding from the rectum. This should include inspection, digital examination and the use of the anoscope. If a bleeding point is found and controlled by any means, additional bleeding demands that a proctoscopic examination be done, and if this is negative, the patient should be sent to the roentgenologist for an examination of the colon. Because carcinoma of the lower bowel is relatively slow to metastasize, and because the results are so good when the lesions are removed surgically, the good physician always suspects cancer when there is rectal bleeding. It is the duty of the doctor to rule out cancer in any case of rectal bleeding.

In addition to cancer and hemorrhoids, there are many causes of profuse hemorrhage from the anus. The blood may come from the stomach as a result of carcinoma or ulcer, from the esophagus because of varices, from an ulcer in a Meckel's diverticulum, or as a result of regional ileitis. More rarely, cirrhosis of the liver and the leukemias cause rectal bleeding. In the lower bowel polyps, hypertension with arteriosclerosis and rupture of an artery, and diverticulosis of the colon may result in bleeding. All of these conditions are uncommon, and the great majority of patients with rectal bleeding will ultimately have a correct diagnosis of hemorrhoids or carcinoma of the colon.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

SHOULDER AND ARM PAIN OF SCALENUS ANTICUS ORIGIN

MANY of our patients have persistent shoulder pain. Hendricks¹ writes encouragingly on this subject.

Shoulder pain with radiation to the arm, forearm, and hand is the symptom complex of scalenus-anticus syndrome. As pressure on the brachial plexus or subclavian artery is the cause the symptomatology is not distinct nor definite.

¹ I. W. C. Hendricks, Brookville, Pa., in *Penn. Med. Jl.*, Mar.

The scalenus anticus arising from the 3rd, 4th, 5th and 6th cervical vertebrae courses down and forward to be inserted on the first rib, slightly anterior to its mid-point. The location of the brachial plexus and subclavian artery is such that either or both may be compressed by elevation of the first rib or dropping of the shoulder. They may be crowded between a contracted scalenus anticus and the first rib, or they may be squeezed between a rigid scalenus anticus and the adjacent scalenus medius, which lies just behind the former. It will also be seen that an overdeveloped, spastic scalenus anticus will abnormally elevate the first rib.

Compression of the brachial plexus or subclavian may cause pain in the anterior or posterior part of the shoulder, in the arm or forearm, or in the hand; less frequently in the anterior or posterior upper thorax. Pain varies from slight tingling to sharp lancinating to dull aching. There may be paresthesia, hyperesthesia, or anesthesia. The skin of the affected extremity may be blanched or of a dusky hue. The pulse may be diminished, or there may be temperature changes.

Any persistent or maintained contraction of the scalenus anticus will cause this entity. Shoulder girdle injury may initiate it.

Infectious lesions of the shoulder or cervical vertebrae may precipitate an attack. A pathologic process of the cervical spine from the third vertebra down may act directly on the muscle. Either myositis or fibrosis would cause a tightened scalenus anticus. Whether of traumatic or infectious origin, the patient's complaints are the same.

The most telling sign is to put finger or thumb pressure above the clavicle and over the scalenus anticus, with localized tenderness and pain radiating to the arm on the normal side. There may be slight tenderness with no radiation. Forceful downward pull or push of the shoulder or rotating the head to either side aggravates the pain. Tensing the scalenus by having the patient look over the affected shoulder and lift the chin will exaggerate the pain. The same maneuver while taking a deep breath will decrease or obliterate the radial pulse on the affected side.

The differential diagnosis includes cervical rib, subacromial bursitis, ruptured supraspinatus tendon, sympatheticalgia, and Raynaud's disease. The clinical picture of cervical rib is identical to the subject under discussion. Exclusion is done by x-ray. Subacromial bursitis and rupture of the supraspinatus tendon both cause shoulder pain. Tenderness is limited to the supraspinatus region or the subacromial bursa without accompanying nervous or vascular symptoms. In the latter, abduction of the arm increases pain, whereas this position alleviates scalene pain. Röntgenograms

often show calcification in the bursa in subacromial disease. In sympatheticalgia, pain originates in the supraclavicular region with radiation to the neck, face, and down the arm; it may be accompanied by vasmotor phenomena. Novocaine block temporarily abolished the symptoms. Raynaud's disease is usually bilateral, scalenus anticus unilateral. There are no nervous manifestations in Raynaud's disease.

The majority can be cured under the hands of the general practitioner. Aim is to relax scalenus anticus spasm by first is local heat, infrared rays, or diathermy—low-wave frequency seems the most efficient. Second, lifting the shoulder by a sling. Third, Reichert's 3-pillow arrangement. With the patient on his back, it brings the head and shoulders forward. With the patient lying on the bad side with his shoulder on the mattress, a thick pillow is placed between head and mattress to prevent the head rotating toward the bad side. If he lies on the good shoulder, a pillow is placed under the bad elbow and forearm to elevate the affected shoulder.

Novocaine injection is a diagnostic aid; also repeated injections will cure many cases.

The technic is not difficult; the muscle to be infiltrated lies behind the posterior border of the sternocleidomastoid. With the patient sitting upright, the latter muscle is relaxed by moving the head to the bad side and then the muscle is finger-retracted toward the mid-line. If the head is now forced to the other side and retracted, and if during these movements the fingers be dug inward and downward, the scalenus anticus may be squeezed between the fingers and injected with 2 to 4 c.c. of 2% novocaine with the $\frac{3}{8}$ ths or $\frac{1}{2}$ in. needle almost horizontal. As the cervical sympathetic nerve lies on the scalenus anticus, it will occasionally be infiltrated with a resultant Horner's syndrome, drooping eyelid, contracted pupil, enophthalmos etc. Injection of the muscle relieves pain if present. Injection of the cervical sympathetic nerve relieves sympatheticalgia. The two are not to be confused.

Hendricks actually says the general practitioner is capable of managing the majority of these cases; that in most of them the general practitioner can bring about a cure.

These kind words made me suspect the author of being, himself, a G. P., but the Directory assures that his practice is exclusively surgical.

May his tribe increase.

MANY deafened persons have wax, a foreign body, or a furuncle in the ear canal and are cured when these are removed.

GENERAL PRACTICE

W. R. WALLACE, M.D., *Editor*, Chester, S. C.

TREATMENT OF ESSENTIAL HYPERTENSION

FOR HYPERTENSIVE DISEASE no miracle drug has been discovered. The principal improvements in its management in late years have been rather in lifting restrictions and promoting philosophic acceptance than in drug therapy.

S. Marx White has earnestly studied this subject for more than a quarter-century. His most recent pronouncement¹, here given in substance, is well worth our acceptance and application to cases entrusted to us.

In a small percentage of cases of arterial hypertension an easily discoverable cause may be found. Nephritis, polycystic kidneys, urinary obstruction, congenital coarctation of the aorta, or tumor of the adrenal cortex may cause paroxysmal hypertension. It is noted at times in congestive heart failure, as an accompaniment of pain, or after exertion or excitement, and it may attend a thyrotoxicosis. It may develop as a result of increased intracranial pressure.

The great majority of cases—some say 9.5 per cent—have no such demonstrable cause.

Psychiatric participation in the treatment may be indicated by the manifestations of neurosis, a not uncommon accompaniment of hypertension.

Whether slow or rapid in onset, benign or malignant when first seen, it is of extreme importance to recognize at the earliest possible moment, the earliest and more labile phases of the malady. Emphasis is placed on the need for attention to the part which environment and emotional responses thereto play in the evolution of hypertension in each case.

The great majority of cases need only the guidance of the wise physician, trained by experience to treat the whole personality and willing to devote some time to elucidation of the character of the problem so that the physician can give the patient himself some understanding of it. This takes time, patience in instruction, and tact.

Much reading by patients about medical matters which concern themselves is to their detriment. One little book for popular use found to be very helpful to many is Jacobson's "You Must Relax." It has no fads or fancies to promote and it teaches people to relax. One of the greatest needs of the hypertensive patient is to protect him against discussions of his malady by neighbors, friends, and members of his family. Barbiturates have no place in the routine treatment of arterial hypertension.

Most important for consideration are: reduction of weight in the obese; biological and chemical

¹ S. Marx White, Minneapolis, in *Jl. Okla. State Med. Assn.*, March.

substances lowering blood pressure; surgical procedures. Treatment of the obesity is only a part of the environmental management. Edna Ferber coined the phrase, "A vast waddle of womanhood." To dangle that picture before the eyes of a fat woman is a stimulus of untold value.

Today, thiocyanate is the most effective drug available. There are three ways in which some effects are believed to occur: slight depressant action on the central nervous system; relaxation of smooth muscle fiber; reduction of basal metabolic rate.

A serious danger at this time is its use without frequent control of blood levels, and without observation for symptoms and signs of toxicity including the examination of the blood for effects on the blood-making organs. These procedures are within reach of any laboratory.

Administration is begun with three one-grain (65-mg.) tablets of potassium thiocyanate per day. At the end of two weeks, the blood level is determined and morphologic blood study is made. Three patients had satisfactory reduction in systolic and diastolic pressures with this dosage, although the blood level did not rise above 4 mg. per cent; large doses are usually needed. The two-week period of study is the rule. Doses are increased after each study, adding one grain to the total daily dose until either a satisfactory level is reached, or as in some instances this increment appears to raise the level too slowly. In one case 9 grains a day resulted in only 4- to 6-mg. per cent level, without demonstrable effect on pressure readings. It was only after 18 grains a day were given and a serum level of 12 mg. reached that a considerable reduction in pressure developed. When doses larger than 9 grains a day are necessary, 3-grain tablets are used.

The variation in dosage necessary to produce a given level, the variations in effective level, and the variations in susceptibility to toxic manifestations make it necessary to watch this drug unremittingly. To this is to be added the fact that a dosage tolerated over a long period of time without toxic effects may suddenly and for no known reason produce severe toxic effects.

While most give about 8 mg. as the level to be attained or exceeded, in numerous instances good results have been obtained at levels between 4 and 7 mg. per cent. The dosage necessary to attain this has varied from 3 to 12, and even 15, grains a day. It is generally believed that a level of 15 mg. should not be exceeded.

If after two months of thiocyanate therapy, and the attainment of adequate level in the serum, a fall of pressure or other evidence of benefit does not occur, the drug should be discontinued.

Contraindications to the use of thiocyanate are: Cardiac decompensation; depression of renal function as revealed by phenolsulfonephthalein; severe arteriosclerosis especially cerebral; in general, patients over 60 years of age. With the development of papilledema and other indications of the malignant phase, the drug loses its efficacy. It is not beneficial in the hypertension of the toxemia of pregnancy. The anginal syndrome is often exaggerated by its use.

Not all hypertensives require thiocyanate, nearly half of the moderate labile hypertensives are carried on without the drug—relying upon environmental adaptation, instruction in relaxation, and general measures. Also when the drug is administered these considerations are not neglected.

White's experience with treatment by unilateral nephrectomy has been limited to cases of arterial hypertension in which a nephrectomy has been performed for the condition of the kidney and not for the hypertension. He has been called upon to study too many patients on whom a nephrectomy has been done under what had seemed to be inadequate indications, whose hypertension has recurred or not even been relieved.

The story with regard to surgical treatment of hypertension is a similar one. For 15 years White has been trying to find a case in which the circumstances seemed suitable. He has so far failed. He has seen a number of patients on whom it has been done. When successful, postural hypotension replaces the hypertension for a few months at least.

The really commendable and satisfactory results he has seen are in some of the cases of malignant hypertension in which a temporary reprieve from very distressing and intractable symptoms has been achieved.

INTERNAL MEDICINE

GEORGE R. WILKINSON, M.D., *Editor*, Greenville, S. C.

ENDOCRINOLOGY IN OFFICE PRACTICE

A GREAT MANY patients come to doctors because of symptoms caused by dysfunction of the endocrine glands and even after being under futile treatment for months, the cause is not recognized. A Chicago clinician¹ gives sound advice in this connection.

Failure to make the proper diagnosis in these cases is due mainly to neglect to bear in mind their frequency and the number and variety of their manifestations.

Nowadays physicians have to depend more on a diagnosis arrived at by the use of their five senses without recourse to laboratory or hospital facilities

¹ J. H. Hutton, Chicago, in *Jl. Indiana State Med. Assn.*, Mar.

than at any other time in the past quarter century.

Most endocrinopathies occur in ambulatory patients. The most important, because most numerous, are the milder forms of hypothyroidism, pituitary deficiency, Frölich's syndrome, and menstrual disorders.

A woman with backache, obesity, fatigue, headache. The third orthopedic surgeon whom she had consulted about the backache diagnosed rupture or slipping of an intervertebral disc and advised operation. Her obesity was of the pituitary-thyroid deficiency type. Reduction of her weight brought complete disappearance of the backache, which has never recurred although the weight has been regained.

A teacher with severe low-back pain radiating down both thighs, also a victim of pituitary-thyroid dyscrasia, treatment reduced weight and gave complete relief of back symptoms.

Another patient had pain in the left hip and inability to straighten the left leg when lying down, which persisted following fracture of the pelvis seven years before. She had been studied in a teaching hospital and told her injury was responsible, and she would have to learn to live with her disability. She also complained of exhaustion, diurnal somnolence, paroxysmal tachycardia, menopausal symptoms. All disabilities disappeared coincident with the correction of her endocrinopathies.

Hypothyroid babies are often large, while candidates for obesity in later life often weigh six pounds or less at birth. Mothers with hypopituitarism are often unable to nurse their babies. With each pregnancy they gain more weight and develop other symptoms of pituitary deficiency. The patient often inherits the mother's pituitary deficiency.

Hypothyroidism is accompanied by delayed dentition; in pituitary deficiency the teeth may erupt at the normal age.

Hypopituitarism explains many cases of delay in stopping bed-wetting and delayed puberty. Headaches just before or after periods, chilliness, and a craving for sweets are frequent symptoms.

The obese hypopituitary gives history of having been a small baby, thin and undersize until some infection developed or tonsillectomy or appendectomy, or until after pregnancy. Following any of these begun to gain weight rapidly and had other symptoms.

The victim of pituitary and thyroid deficiency is likely to be somnolent during the day and wakeful at night. The hypothyroid is sensitive to cold and enjoys hot weather. Hypoadrenia causes sensitivity to cold and hot weather. Hypopituitarism causes no such symptoms.

Infections often damage the pituitary, and probably through it the thyroid and gonads, so every child who has an acute infection should be observed carefully, and if there is any evidence of pituitary damage, corrective measures instituted at once.

Frölich's syndrome, characterized by obesity and hypogonadism, is extremely common. The treatment is simple and satisfactory. They all need 1) thyroid in such doses as can be tolerated without tremor, tachycardia, nervousness, or insomnia; 2) pituitrin in such doses as will not cause annoying intestinal cramps, nausea or faintness; 3) either anterior pituitary extract 0.5 c.c. two or three times per week or a gonadotrope, such as antuitrin or A. P. L., 50 to 100 units two or three times a week. Most men prefer larger doses. Those of average height or below will do better on anterior pituitary extracts because these tend to stimulate growth in height as well as development of the genitalia. Those of more than average height should have some gonadotropic preparation with the idea of hastening the closure of the epiphyseal lines.

Treatment should be continued until the development of the genitalia reaches normal proportions.

Check urine every 30 or 60 days for sugar when giving gonadotropic preparations.

If sexual development seems too rapid, the anterior lobe extract or the gonadotrope, whichever is being used, should be stopped for 30 or 60 days. It sometimes happens that once development is started the body carries on without further assistance.

Hypothyroidism should be recognized by the history of mental and physical retardation, usually gain in weight, bradycardia, sensitiveness to cold, and by the physical findings. It sometimes simulates brain tumor, tabes, neuritis, ulcer, cholecystitis, pernicious anemia, or nephritis. In cases suspected of such disorders it is sometimes easier and wiser to rule out hypothyroidism before subjecting the patient to the expense of gastro-intestinal x-ray studies, lumbar puncture, etc. The thyroid dosage is one grain per day for one week. If no signs of hyperthyroidism occur, as indicated below, increase the dose to two grains for another week, and so on.

B. M. R. determination is rarely necessary. The patient should be seen at least once a week. When tachycardia, tremor of tongue or outstretched fingers occur, or the patient complains of heart consciousness, nervousness, or insomnia, the dose should be reduced 25% and continued at that level. If thyroid is given to young girls periods of amenorrhea develop without other signs of hyperthyroidism. At the first sign of any menstrual disturbance the thyroid should be stopped.

Suspect the obese woman with headache of hypopituitarism; give 0.5 c.c. of obstetrical pituitrin not closer than one week to her next menstrual period. If relieved, give a series of such injections twice a week. A few days later give 0.5 c.c. of anterior pituitary extract. Relief and a sense of well-being is additional evidence that the pituitary is at fault. Both extracts should then be given twice weekly in the same syringe at the same time. The pituitrin should be omitted during the menstrual periods. Such women should also be given thyroid.

A low B. M. R. without symptoms of hypothyroidism is apt to be due to some non-endocrine condition or to pituitary or adrenal deficiency.

Thyroid two grains per day to an adult will within a week bring about some improvement in the victim of hypothyroidism, whereas it will make the patient with hypoadrenia more miserable.

The injection of 0.5 c.c. of anterior pituitary extract will within an hour give the victim of hypopituitarism a sense of well-being wholly different from his usual state.

Hyperinsulinism due to adenoma of the pancreas is an unusual disorder, but spontaneous mild hypoglycemia is common, often due to pituitary and thyroid deficiency. Make a glucose tolerance test. Have the patient take food an hour before the time the symptoms usually occur; prevention is strong evidence of hypoglycemia. One grain of thyroid per day and injections of 0.5 c.c. each of anterior and posterior pituitary extract twice a week will in many cases relieve in a short time.

For those who need relief of menopausal symptoms, we have the various estrogenic preparations. Begin with 2,000 I. U. one or more times per week. If not relieved after two weeks increase the doses.

Estrogens for oral administration—premarin, stilbestrol, estinyl, benzestrol, and others—are less expensive than those for hypodermic use. They are apt to produce side reactions, the most common being gastrointestinal upsets. Seldom are they sufficient of themselves and some injections of the estrogens in oil have to be given.

The climacteric is difficult to recognize in the male. Treatment consists of testosterone propionate, 25 mg. two or three times per week, depending on response. It is said to reduce the frequency and severity of anginal attacks in men of middle age and beyond: 16 injections twice weekly, then reduced.

Patients with hypertension and pituitary and thyroid deficiency, given an injection of 0.5 c.c. anterior pituitary extract, b. p. taken before and at 15-minute intervals, if it falls markedly within an hour it is likely that two or three such injections per week will be helpful. Diabetics should not be subjected to this treatment.

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

**OUR PEOPLE HAVE THE BEST HEALTH
AND THE BEST DOCTORS IN
THE WORLD**

THE NONSENSE as to rejections for military services constituting a shameful showing as to the health of the people of the Nation, and as evidence that our people are not receiving intelligent, competent medical service is still being put before the public.

Evidently, those persons responsible for this continuing campaign of calumny of the medical profession are either grossly ignorant or entirely unscrupulous.

In only a small fraction of thoses rejected for military service was the defect or departure from the healthy such as to prevent the individual from following a gainful occupation in civilian life, propagating his kind, supporting his progeny, and living to a ripe old age.

As these calumniators—either ignorant or malicious, take your choice—gleefully record, the 10 leading causes for rejections for military service were mental disease, mental deficiency, syphilis, muscle and bone conditions, disease of heart and arteries, eye abnormalities, hernia, neurological states, ear disease, and tuberculosis.

If doctors had enough power and little enough sense to control reproduction of the human species, as have breeders of horses, cows and hogs of the reproduction of these quadrupeds, the percentage of thoses mentally diseased and mentally deficient in our population—the two groups that lead the 10 causes for rejections—could be very materially reduced. But, except in the cases in which such diseases or deficiencies are of extreme grade, those who know most about hereditary influence agree that such restrictions would be unwise, much more harmful than beneficial; and as all know such restrictions are not, nor can ever be, within the powers of the medical profession.

Syphilis is being very materially reduced in incidence, and in most cases cured when it does develop.

Diseases of the muscles and of the bones are, in many cases, of hereditary origin, and in many others of an origin entirely unknown. Some of them, along with diseases of the heart and arteries are a part of the wearing-out process which is an inseparable part of the fate of all living things.

Some of the eye diseases are directly hereditary, but the great majority of these eye defects are conditions which could be corrected by the use of glasses so that the person rejected would be just as useful and as happy a citizen as his fellow who had no need of glasses.

If doctors could make, and were foolish enough to make, all of us return to walking on all-fours,

hernia would be practically done away with. Quadrupeds do not have inguinal hernia.

Thus practically all of the causes for rejections are covered. All intelligent and honest persons well understand that thus is refuted the slanders of those who tear their hair, wring their hands and wail to high heaven about the failure of the medical profession. But, unfortunately, intelligence and honesty are both rare qualities. Nobody with half-sense, one eye, and any honesty whatever, considering these facts, will regard the medical profession as in any way chargeable with responsibility for the fact that 36 out of every 100 examined were rejected; or will fail to see that of these 36 rejections the vast majority are in no way disqualified from discharging the peacetime duties of a citizen, or of propagating and supporting a healthy and intelligent progeny.

Yet, these figures, and worse than childish reasoning on these figures, are being used by sorry politicians, from the President down, in effort to destroy the practice of medicine as a free enterprise. And the puniest of our Presidents undertakes to enforce the will of the C. I. O.-dominated clique which has taken over what was once the Democratic party.

Surgeon General U. S. P. H. S. Thomas Parran has sent a letter to the doctors who are employed in the U. S. P. H. S., to this effect:

Executive agencies of the government have been specifically instructed by the President to assist in carrying out his legislative program as presented to the Congress. The President has written to the administrator of the Federal Security Agency requesting him "to take primary responsibility for legislative measures necessary to carry out the part of my message outlined in section 21 concerning a national health program to provide adequate medical care for all Americans and to protect them from financial loss and hardship resulting from illness and accident." The Surgeon General's letter goes on:

"Every officer of the Public Health Service will wish to familiarize himself with the President's message and will be guided by its provisions when making any public statement likely to be interpreted as representing the official views of the Public Health Service."

A great many of the doctors who were given this thinly-veiled order to support the Wagner-Dingell-Murray bill are only temporarily in the P. H. Service, and will soon be back in private practice, provided there remains any private practice. But they must not protect their right to earn a living.

If this be not tyranny, then Caesar, Charles the First and George the Third, to say nothing of Dic-

tators of our own day, have been unjustly dealt with.

FOR JUSTICE FOR COUNTRY DOCTORS AND COUNTRY FOLKS GENERALLY

THIS JOURNAL has insisted for 20 years that its citizens who use mainly the dirt roads of the State have been robbed throughout all that time of practically all that they have paid in gasoline tax. They have been robbed because the tax was imposed with a promise that the funds would be used to improve the roads and so make the cost of driving an automobile materially less; and these people's roads have not been improved. In that time roads already hardsurfaced have been widened and duplicated very generally for the profit and pleasure of those who live on those roads, while the dirt-road people have been left to get on as best they could. This is a common illustration of the principle of "to him that hath shall be given"; or, in the vernacular "them that has gits."

Last winter I talked with a number of doctors whose practice is mostly among people who live on dirt roads. Some of them told me that the best solution they could make of this problem was to require that the patient be brought to the doctor or that those desiring his services provide the transportation and do the transporting.

This journal has proposed many times and urged, that 1) no old hardsurface road in the State be paralleled or widened until every public road in the State is hardsurfaced; 2) that every hardsurface road have one plainly visible line drawn 12 inches to one side of the center and another 12 inches to the other side of the center, so that no matter in which direction a motorist might be going he could have his own line to run on; and 3) that each hardsurfaced road have a sand-clay walk alongside it for the convenience and comfort and safety of pedestrians.

The time seems appropriate for renewing these recommendations.

WHAT IS THE CHANCE THAT YOU WILL HAVE APPENDICITIS?

ALL OF US have wondered, many of us have conjectured as to the prevalence, of what is called appendicitis among our patients.

A study¹ of this subject which merits serious attention arrives at conclusions startling to some of us. The evidence and the conclusions (which seem reasonable) are given in brief.

Several persons rather intimately conversant with things medical were interrogated on this point; and, to my astonishment, every one of them put the incidence higher than that arrived at by this investigation.

¹ L. K. A. Stiles & F. W. Mulsow, Cedar Rapids, Iowa, in Amer. Jl. Dig. Dis., Jan.

A good many of us will note with intelligent interest the large percentage of students, presumably intelligent, who declined to be submitted to appendectomy—and will wonder how they came out.

Fowler and Boehrer found an attack rate of four per thousand, per year, among the student population of 15,000 at the University of Minnesota during the 10-year period studied. They say that this rate is less than half the national rate because many students reported to their family physician and in this way they could not be included in their student health data. A diagnosis of appendicitis was made in 594 students, and 310 (52%) were not subjected to appendectomy. In 294 the appendix was removed. Of this number, 25 were considered as an interval type of operation, 222 had acute appendicitis, and in 37 the pathological examination revealed no evidence of acute inflammation.

In the present study, 2,968 students of Coe College were interrogated by questionnaires over an 8-year period. Ten per cent, 297 of the group, reported that their appendices had been removed—9.6% of the male and 10.9% of the female students. Among the men students there were 106 (5.1%); among women students 66 (7.4%) who had been told that they had appendicitis but did not have their appendices removed.

It has been stated by Osler that 50 per cent of the cases of acute appendicitis occur before the 20th year. Among the college students we have found that 10 per cent have had their appendices removed. The average age of these students was 19.4 years. From these figures it would appear that at least 20 per cent of all people in the United States have an appendectomy during their lives.

Baker, from data obtained through the Literary Research Service of the American College of Surgeons, estimated that 16 per cent of the population would undergo hospitalization for appendicitis some time in their lives.

Watkins found that one person in 653 in Cleveland in 1941 had an acutely inflamed appendix removed; Anderson that 750,000 people in the United States are hospitalized for appendicitis annually. If this be true 0.5 per cent of the population have an appendectomy each year. If this rate persists and our length of life is 65 years, then one-third of all the people would have their appendices removed during their lives.

THE INCIDENCE OF APPENDECTOMY in hysterical girls is extremely high. Of the 32 hysterical patients listed in this follow-up, 20 had had appendectomies; whereas among 100 student nurses there were only 13 appendectomies.

—Stanley Cobb, Boston, in *Bul. N. Y. Acad. Med.*, Mar.

VITAMIN-K—From P. 105

of hypertension and heart trouble of years standing. She was given menadione and after the second dose felt so much relieved that she continued to take one or two tablets a day. She later reported that at the end of four days she was able to go up and down the steps without any effort and forgot she had a heart. To date she has not been back for testing but has an appointment in the near future.

CONCLUSION

One more drug has been added to the long list of those used in the treatment of urticaria, this being menadione, or synthetic vitamin K.

—1515 Bull Street

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UROLOGY-MYELITIS—From P. 103

3. Frequent studies of the urinary tract are advised with K. U. B., I. V. pyelograms, bladder inspections, cystometric and sphincterometric examinations.

4. Urological complications occurring in a group of 50 cases are reviewed.

—627 North Fant Street

Reference

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NEARLY HALF AS MANY POUNDS OF SULFA DRUGS AS ASPIRIN TAKEN

(H. C. Goldberg, Plainfield, in *Jl. Med. Soc. N. J.*, for March) The extent of sulfa medication is evidenced by the fact that 4,514,500 pounds of sulfa drug preparations were manufactured in 1944. Only 9,423,400 pounds of acetyl salicylic acid were manufactured in the same year. It is thus obvious that a large percentage of the population is or has been treated with these drugs.

The chief toxic effects may be divided into five groups.

1. On nervous system—chiefly anorexia, nausea and vomiting. Large doses cause convulsions and spasticity, and slowed reaction time making necessary special care in operating machinery such as driving a car. Treatment with sulfa drugs leads to a considerable increase in the toxicity of papaverine, codeine, morphine, barbiturates, and novocaine-adrenalin mixtures.

2. A common reaction is drug fever.

3. All sulfonamides may produce blood disorders of almost any type. No permanent damage usually results if drug therapy is discontinued early. The anemias produced tend to recur on readministration of the drug. Sulapyridine seems to be most often responsible for producing agranulocytosis.

4. Visceral damage. Liver damage may produce a fatal result; kidney damage may be due to precipitation of acetylated sulfa-compounds, or to a toxic nephritis. Renal damage is of rare occurrence with sulfanilamide therapy.

5. Skin manifestations with or without fever, lymphadenopathy, splenomegaly and arthralgia; photo-sensitization.

HELP IN THE MENOPAUSE

The Roche Review for February quotes the experiences of a number of clinicians of large experience in this field.

Menopausal symptoms are probably caused by estrogen withdrawal since estrogen therapy promptly and specifically relieves the symptoms in most cases. First ascertain that the patient's symptoms are those of the menopause before beginning any form of treatment. Reassurance of the patient with mild sedation, systemic treatment and correction of irregular bleeding may effect cure without resort to endocrine therapy.

The benzoate and propionate esters of estradiol in sesame oil administered parenterally have rapid beneficial effect on vasomotor symptoms and on the patient's morale. It is important to determine the optimal dosage for each patient in the beginning of treatment throughout the maintenance of therapy. The dosage of estradiol benzoate (Dimentformon Benzoate 'Roche-Organon') used in the "average case" was 2,000 R. U. twice a week until the symptoms were lessened; this dose was then continued once a week or every two weeks for two or three months, after which a maintenance dose was determined upon.

Joffe used dosages much lower than those usually prescribed. Relief of the most aggravated symptoms or of chief complaints was considered as successful treatment. Dimentformon Benzoate was given in doses of 600, 1000, and 2000 R. U. at varying intervals over three or more months.

A patient may require two 2000 R.U. injections weekly for six weeks, and subsequently remain very comfortable on one or two 600 R. U. injections weekly. In patients undergoing spontaneous menopause with less severe symptoms, one or two injections of 1000 R. U. a week for four weeks followed by one or two injections of 600 R.U. a week were used. Even smaller doses were adequate in some cases. Much higher doses (2000 R. U. twice a week or oftener) were necessary in order to produce satisfactory results in patients with induced menopause.

With a dose of 2000 R. U. (0.33 mg.) of alpha-estradiol benzoate most of the menopausal patients were kept symptom-free for eight to 10 days and a number were able to go for two to three weeks between injections.

Novak recommends that stilbestrol be given in amounts only large enough to control those menopausal symptoms which constitute a real problem to the patient; he believes that on the average, 0.1 to 0.5 mg. will do this satisfactorily—very seldom should a higher dosage be used. A maintenance or routine dose of stilbestrol, no matter how small, should never be prescribed, since the

cumulative dose will eventually result in uterine bleeding.

In a group of 47 patients—17 were in the natural menopause, 15 undergoing artificial menopause, and 15 for the most part in a state of hypoestrinism. Tablets of ethinyl estradiol were used; average optimal dosage was found to be 0.05 to 0.1 mg. Mental depression was refractory to treatment; it was benefited more by ethinyl estradiol than by other natural estrogens.

Seven of the 47 patients had toxic reactions—nausea in five, vomiting in two, and dizziness and nervousness in one each. Three of these tolerated the estrogen much better when the dosage was decreased.

Minimal and transitory nausea occurred in 11% of the patients.

Lyon treated 45 menopausal women with ethinyl estradiol in doses of 0.05 mg. daily for courses of 21 days followed by one week free of treatment. Occasionally the week had to be shortened to a four-day interval, when symptoms recurred with too much severity.

Hot flushes were controlled after 3.8 days of treatment in the first cycle, after three days in subsequent cycles. In some cases, headaches, nervousness and restlessness persisted after treatment with the small doses used, although flushes were well controlled. Most symptoms were reduced greatly in severity or frequency of occurrence.

COMPARISON OF RESPONSE OF GONORRHEA TO SULFATHIAZOLE AND PENICILLIN

I. H. Mauss, Rapid City, So. Dak., in *JL Lancet*, Mar.

Comparison of the efficacy of sulfathiazole and penicillin in the treatment of 144 cases of gonorrhea reveals that:

1. Sixty-eight per cent of 75 patients were cured with a single course of sulfatherapy, and on retreatment (2 to 6 courses) 77% of the total were cured.

2. Ninety-six per cent of 69 patients were cured with a single course of penicillin, and on retreatment (with 300,000 units) 100% were cured. Thirty-three of these patients had been sulfa-resistant, and all were cured after a single course of penicillin.

Sulfa-treated patients should be observed for a minimum of three months before being considered cured.

A TWO-YEAR STUDY of the effect of the use of fluoride-containing dentifrices was carried out on groups of dental students and orphanage children. No evidence of a reduction of caries activity was found.—B. G. Bibby, Boston, in *JL Dental Research*, Dec.

A TWO-YEAR STUDY of the incidence of caries in 361 teeth of 21 children between two and 13 years of age revealed a marked increase in rate following suspension of periodic topical applications of a sodium fluoride solution over a period of one year. The results suggest that the caries-inhibiting effect of a series of topical fluorine administrations is restricted in the absence of continued applications.—H. B. McCauley & P. P. Dale, Rochester, N.Y., in *JL Dental Research*, Dec.

NEWS

BOWMAN GRAY SCHOOL OF MEDICINE OF WAKE FOREST COLLEGE

The Board of Trustees of Wake Forest College, at a meeting held at Wake Forest on Tuesday, March 26th, acted favorably on an offer from the Z. Smith Reynolds Foundation of an endowment fund with a market value at present of \$10,500,000. The charter of the Foundation provides that 20 per cent of the income be added to the principal until, through this and other contributions, it reaches \$50,000,000. The offer stipulated that Wake Forest College be moved to Winston-Salem where the Bowman Gray School of Medicine of Wake Forest College and the North Carolina Baptist Hospital are now located. Final decision in the matter will be made by the North Carolina Baptist State Convention. Officers and directors of the Z. Smith Reynolds Foundation are: W. N. Reynolds, President; Stratton Coyer, Secretary; Richard J. Reynolds, Mary Reynolds Babcock, Nancy Reynolds Bagley, and W. R. Hubner.

A gift of \$125,000 has been recently received from Gordon Gray, son of the late Bowman Gray. The greater portion of the gift will be used to develop a department of Psychiatry.

Dr. Lloyd J. Thompson, formerly a member of the staff of the department of Psychiatry of Yale University School of Medicine, and more recently Chief Consultant in Psychiatry for the European Theatre during the war, has been elected Professor of Psychiatry and director of the department of Neuropsychiatry.

Dr. J. P. Davis, Dr. Charles H. Reid, Jr., and Dr. Joseph B. Stevens have been appointed to the staff, each with the title of Assistant in Medicine.

The fourth Commencement of the Bowman Gray School of Medicine was held on March 24th. Forty-two graduates were awarded the degree of Doctor of Medicine. Dr. Thomas T. Mackie, of New York, delivered the commencement address.

Dr. Wingate M. Johnson of the department of Medicine spoke at the Annual Clinical Conference of the Chicago Medical Society on March 5th. His subject was: The Management of the Patient with Peptic Ulcer.

Dr. George T. Harrell, Jr., of the department of Medicine, was on the program of the New Orleans Post-Graduate Assembly, which was held April 1st-4th.

DR. TOM WRIGHT'S SON TO PRACTICE PSYCHIATRY AT CHARLOTTE

Dr. Thomas Hasell Wright, Jr., has opened offices at 1373 East Morehead Street, Charlotte, for the practice of psychiatry. Dr. Wright, who returns to Charlotte after teaching at Harvard and the University of Pennsylvania, is an A.B. graduate of the University of North Carolina, and an M.D. of the University of Pennsylvania. After two years of rotating internship he obtained a Rockefeller fellowship to study psychiatry at the Pennsylvania Hospital, and after a year at that institution did research work for two years under the auspices of the Grant Foundation at Harvard.

He then returned to Pennsylvania Hospital and in 1942 was made clinical director of this hospital's department of mental and nervous diseases.

MERGER OF HOSPITALS AT LUMBERTON FAVORED

Dr. W. S. Rankin, of Charlotte, director of Duke Endowment, and Dr. H. H. Bradshaw, head of the department of surgery of Bowman Gray School of Medicine, recommended consolidation of Baker Sanatorium and Thompson Memorial Hospital — Robeson County's only

hospitals—in addresses before the Robeson County Medical Society April 13th. The meeting was attended by the boards of trustees and representatives of the auxiliaries of the two institutions.

No action on the proposed merger was taken at the meeting, though it was announced that a majority of the trustees of both hospitals favor such consolidation.

Dr. Murray Kinlaw, of Pembroke, president of the society, presided. Dr. T. H. Mees, resident at Baker Sanatorium, and Dr. Fred Ford, of Maxton, were approved as new members of the Medical Society.

UNIVERSITY OF VIRGINIA

At the meeting of the University of Virginia Medical Society on Monday, March 4th, Dr. Marius Nygaard Smith-Petersen, of Harvard University, spoke on the subject, Arthroplasty of the Hip with Vitallium Mold.

Dr. Oscar Swineford, Jr., Professor of Practice of Medicine, was a member of the faculty of the Postgraduate course in Allergy held in New Orleans, March 8th-12th under the sponsorship of the Department of Medicine, Louisiana State University, and of the American Academy of Allergy. His subjects were Physical Allergy, Neurologic Allergy, and Contact Dermatitis. Dr. Swineford read a paper at the meeting of the Southeastern Allergy Association in Atlanta, March 30th, on Contact Dermatitis.

On Friday, April 19th, Dr. Eugene M. Landis, Professor of Physiology in the School of Medicine of Harvard University, gave the annual Alpha Omega Alpha address. He spoke on Venous Pressure and Cardiac Failure in the Laboratory and Clinic.

The University of Virginia on March 20th conferred degrees upon 65 medical graduates at exercises at which Rear Admiral Kent C. Melhorn was the commencement speaker.

Fifty-one young doctors received commissions as first lieutenants in the Army and 20 as lieutenants (junior grade) in the Navy—61 of the 65 going into military service!

AMERICAN COLLEGE OF CHEST PHYSICIANS

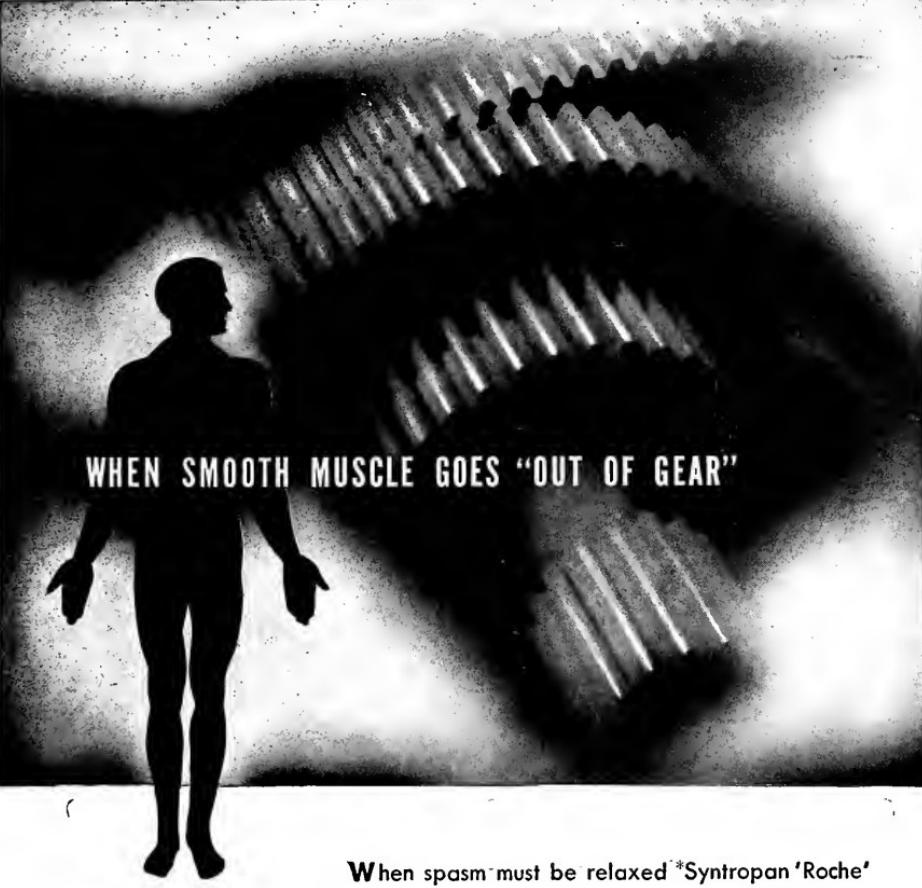
The next oral and written examinations for Fellowship in the College will be held at San Francisco on June 29th. Applicants who plan taking the examination should communicate with the Executive Secretary, American College of Chest Physicians, 500 North Dearborn St. Chicago 10.

The Twelfth Annual Meeting of the College is scheduled to be held at the Sir Francis Drake Hotel, San Francisco, June 29th-30th, July 1st-2nd.

THE PITTS COUNTY MEDICAL AND DENTAL SOCIETY held its regular monthly meeting at the Proctor Hotel, Greenville, the evening of March 14th, with President F. P. Brooks in the chair. Dr. C. G. Garrenton, Bethel, read a paper on Diathermy; Dr. Charles E. Fitzgerald, Farmville, one on The Use of Infrared and Ultraviolet Rays. The Pitt County health officer, Dr. N. Thomas Ennett, made his regular monthly report to the Society.

There is a movement on foot to erect a new hospital in Greenville with County and Federal funds as a war memorial.

DR. MC G. HEDGPETH has been appointed by the trustees of Hospital Savings Association of North Carolina, Inc., with headquarters at Chapel Hill, to act as medical director of the association to fill the vacancy created by the death of Dr. I. H. Manning. Dr. Hedgpeth will continue to hold his present position, University physician, in addition to his new duties with the Blue Cross plan, but will give up most of his private practice.



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SYNTROPAN 'ROCHE'

NON-NARCOTIC ANTISPASMODIC
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THE AMERICAN COLLEGE OF SURGEONS announces that arrangements have been completed for the holding of its Thirty-second Clinical Congress at the Waldorf-Astoria, New York, September 9th-13th. This will be the first Clinical Congress since the meeting in Boston in 1941. Since that time, 2,744 surgeons have been received into fellowship in absentia. Many of these new Fellows will have recently returned from service with the armed forces. The formal initiation ceremonies, always impressive, will be exceptionally so this year because of the large number of new Fellows admitted during the past four years. Officers, Regents and Governors have remained in office since 1941 because of the cancellation of annual meetings of the Fellows.

DR. CHARLES N. WRIGHT, for 2½ years surgeon with the Army Air Forces, is opening an office at Jarvisburg, N. C. This brings assurance of a successor to Dr. W. T. Griggs, for half a century a doctor for the Currituck peninsula, and now 80 years old.

Dr. Griggs' work is now limited to office practice.

Dr. Wright, graduate of Poplar Branch High School, received his degree from Wake Forest College and his medical degree from Temple University in Philadelphia. He served his internship at the Atlantic City General Hospital, following which he enlisted in the Army as a first lieutenant. He was later promoted to captain.

DR. T. PRESTON WHITE, who has recently been separated from active duty with the Medical Corps, Army of the United States, and DR. ARTHUR J. DRAPER announce their association in the private practice of Internal Medicine in Charlotte, N. C.

Dr. Draper was graduated from Harvard Medical School in 1942, and following his separation from the Medical Corps, Army of the United States, served as Intern and Assistant Resident in Medicine at the University of Vir...

ginia, Charlottesville, and as Teaching Fellow in Medicine at Western Reserve University, Cleveland, Ohio.

CATAWBA VALLEY MEDICAL SOCIETY—at Carlheim Hotel, Lenoir, at 6 P. M., April 23rd. Program: Rheumatism, by Dr. Ira S. Jones, Lenoir. Report of a case of Hypoplastic Anemia, by Dr. J. H. Fitzgerald, Lincolnton.

Surgery of the Thorax, by Dr. Paul Sanger, Charlotte. L. A. Crowell, Jr., M.D., Secretary-Treasurer.

DR. HOWARD R. MASTERS and DR. JAMES ASA SHIELD announce the association in the practice of DR. TUCKER, MASTERS and SHIELD of DR. GEORGE S. FULTZ, JR., recently released from active duty with the Army of the United States, Tucker Hospital, 212 West Franklin Street, Richmond, Virginia.

DR. JULIAN E. JACOBS announces his return from military service, resuming the practice of Orthopedic Surgery, at 121 West Seventh Street, Charlotte, N. C., in association with DR. O. L. MILLER, W. M. ROBERTS and HARRY WINKLER.

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According to a recent independent nationwide survey:
MORE DOCTORS SMOKE CAMELS than any other cigarette

DR. LAURIE R. TEASDALE, having returned from active service with the Medical Corps, Army of the United States, announces the reopening of offices for the practice of Ophthalmology, in association with DR. H. C. NEBLETT, 311 Professional Building, Charlotte, North Carolina.

DR. WILEY DAVIS FORBES, professor of Pathology at Duke University, and author of many articles in this field of medical science, was elected president of the American Association of Pathologists and Bacteriologists at the recent annual meeting held in Chicago.

ANGUS HINSON, M.D., F.A.C.S., announces his return from Army Service and his resumption of the practice of Surgery and Urology, again affiliated with Dr. S. Glenn Love—Peoples National Bank Building, Rock Hill, S. C.

DR. THOMAS HASELL WRIGHT, JR., formerly Clinical Director of the Pennsylvania Hospital Department for Mental and Nervous Diseases, has opened offices for the practice of Psychiatry, at 1373 East Morehead Street, Charlotte, N. C.

DR. WILLIAM REID PITTS announces the reopening of his offices at 1518 Harding Place, Charlotte, N. C., for the practice of General and Neurological Surgery.

DR. CARLTON G. WATKINS announces the opening of offices at 401 North Church Street, Charlotte, for practice limited to Pediatrics.

DR. E. L. POTTER announces the opening of offices at 401 North Church Street, Charlotte, N. C.

MARRIED

Dr. William Wailes Magruder, of Starkville, Mississippi, and Miss Kathryn Dorsett Marley, of Siler City, North Carolina, were married on March 16th. Both are now employed at Duke Hospital.

Miss Rita Claire Ryan, of Lynchburg, and Dr. Joseph F. Kell, Jr., of Lawrence, Kansas, April 4th.

Miss Ann Loren Wilson, daughter of Captain Leonard L. Wilson, M. C., U. S. N. R., to Lieut. Comdr. James K. Cunningham, M. C., U. S. N. R., at Camp Lejeune, March 30th.

Miss Patricia Jane Hille, of St. Louis, became the bride of Dr. Robert Lee Vann, of Winston-Salem, formerly of Wake Forest, on April 6th, at the home of the bride's sister, Mrs. D. M. Mitchell, at Glendale, Missouri.

Dr. George Caraway Rogers, of Graham, and Miss Louise Stephens, of Burlington, were married on March 20th.

Dr. Clarence Anderson, of Tampa, Florida, and Miss Cicely Ann Laws, of Brentwood, Maryland, were married at Duke University on March 23d. Both had been graduated from Duke University on their wedding day, the bride from the School of Nursing, the groom from the School of Medicine. The internship will be served in Hartford.

Dr. John Richard Saunders, Jr., of Saluda, and Miss Caroline Virginia Doyle, of McKenney, both of Virginia, were married on March 30th. Dr. Saunders will practice in Lynchburg.

DIED

DR. FAGGE, AGED 90, DIES AT AXTON

Dr. Robert Pinckney Fagge, who celebrated his ninetieth birthday last October, died unexpectedly March 19th at his home at Axton, Virginia. While for some weeks he had not been able to pay calls to patients, during that time many of the sick had been brought to his office in his residence.

Reminiscing not long ago over 56 years of active medical service in Henry County, Dr. Fagge said he thought he was the first horse-and-buggy doctor in the county. Previously doctors in Henry went horseback to see their patients.

Dr. George Epstein, 43, died March 14th at the home of his parents after an illness of several weeks. Dr. Epstein, a native of Goldsboro, N. C., had practiced in Goldsboro 15 years.

Capt. A. E. Corpeling, 29 (Medical College of Va., 1940), Granite Falls, N. C., on terminal leave from the Army Medical Corps, was killed March 18th in a wreck eight miles below Mocksville. Capt. Corpeling was a passenger in his car driven by Dr. C. K. Lynn, of Valdese, who was uninjured.

Dr. J. Shelton Horsley, 75, internationally famous Richmond surgeon, died at his home April 7th. A more extended obituary and tribute will appear in our next issue.

Dr. Frederic M. Hanes, Professor of Medicine in the Medical School of Duke University, died March 25th. An editorial tribute will appear in the issue for May.

Dr. Walter E. Dandy, 60, neurologic surgeon at Johns Hopkins, died April 19th of coronary occlusion. Dr. Dandy was a native of Missouri and he was called to Mexico City in 1940 to see Leon Trotsky, who had been struck a fatal blow by an assassin's hammer.

SUMMER DIARRHEA IN BABIES

Casec (calcium caseinate), which is almost wholly a combination of protein and calcium, offers a quickly effective method of treating all types of diarrhea, both in bottle-fed and breast-fed infants. For the former, the carbohydrate is temporarily omitted from the 24-hour formula and replaced with 4 packed level tablespoons of Casec. Within a day or two the diarrhea will usually be arrested, and carbohydrate in the form of Dextri-Maltose may safely be added to the formula and the Casec gradually eliminated. One to three packed level teaspoonsfuls of a thin paste of Casec and water, given before each nursing, is well indicated for loose stools in breast-fed babies. For further information, write to Mead Johnson & Company, Evansville 21, Indiana.

HAZARDS OF CHILDBEARING SHARPLY REDUCED (Statistical Bul. Metrop. Life Ins. Co., Dec., 1945)

The maternal death rate in New York City in 1933 was 64 per 10,000 live births; by 1944, it had been reduced to 17, a decline of 73%.

In the early 30's a campaign against preventable death in maternity took on national proportions. Between 1933 and 1944, maternal mortality in the U. S. was reduced from 62 per 10,000 live births to 23, a decrease of 63% among white women.

The Problem In Prescribing For Exogenous OBESITY

When the physician prescribes a reduced caloric intake for his obese patients the problem of obesity is not solved, for it is difficult to get patients to carry out instructions. Between-meal hunger, love of sweets and impatience for quick results are factors which militate against strict adherence to the prescribed diet.

The patient's between-meal hunger may be ameliorated and stricter adherence to the prescribed diet insured by recommending Ayds Vitamin and Mineral Candy . . . before meals and also between meals in place of a snack.

Ayds helps to dull the appetite and when used as directed it also constitutes an important psychological reminder to patients that they must follow the prescribed diet. When reduced caloric intake is the recommendation for exogenous Obesity, Ayds will help make your patients more comfortable and more likely to carry out dietary instructions. Ayds contains no Extract of thyroid nor drugs of any kind.

Ayds is laboratory tested to insure its purity. Ayds is supplied by leading drug departments everywhere.

Contains No Thyroid or Drugs



BOOKS

GASTRO-ENTEROLOGY, by HENRY L. BOEKUS, M.D., Professor of Gastro-enterology, University of Pennsylvania Graduate School of Medicine. In three volumes, 2700 pages with about 900 illustrations, many in colors. Volume III—"The Liver, Biliary Tract and Pancreas, and Secondary Gastro-intestinal Disorders." 1091 pages with 427 illustrations, some in colors. W. B. Saunders Company, Philadelphia and London, 1946. Price—3 Vols. and separate desk index, \$35.00.

The completion of the third volume of this elaborate work was delayed by the additional duties of the war years. Now that we have it and see its quality it will certainly be accepted gladly as the completion of a monumental treatise.

The opening chapter is devoted to the anatomy and physiology of the liver. In recent years much has been learned of the physiology which is necessary for an understanding of disease of this organ and of the applicability of the newer tests which are of so much aid in understanding its diseases. Of these liver function tests the author tells us a good many are of little or no clinical value. Those of value he describes and evaluates.

The various jaundices are differentiated. A chapter is devoted to ascites, the various diseases associated with ascites, its differential diagnosis and best treatment. Specific infection of the liver, parasitic diseases of the liver and biliary tract, nonamebic abscess, and tumors and cysts of this organ are all well covered.

The chapter on cirrhosis helps to clarify the current confusion as to causation and describes the most promising treatment in detail.

Of a special interest are the chapters on the influence of thyroid disease on the liver and diagnostic procedures in the study of affections of the gallbladder and bile ducts.

Affections of the pancreas, much more common than is generally appreciated, are given the consideration they deserve. Gastrointestinal parasitism is discussed briefly but adequately. All of us will hasten to learn what is said about functional disorders of the gastrointestinal tract; gastrointestinal allergy; the interrelationship of cardiac and intestinal disorders; digestive tract symptoms secondary to pulmonary tuberculosis; the same as to genitourinary diseases. The final chapter is devoted to the important subject of food poisoning.

Volume III will be promptly recognized as well worthy of inclusion with Volumes I and II, the whole making the most comprehensive coverage of the subject of gastroenterology.

The usefulness of many great books has been seriously limited by failure of the author to provide a good index. This is not at all true of Bockus' Gastroenterology. Each volume has its own ade-

quate index, and in addition a complete general index is supplied in a separate volume.

FIVE 1945 YEAR BOOKS: *The Year Book Publishers, Inc.*, 304 S. Dearborn St., Chicago.

YEAR BOOK OF DERMATOLOGY AND SYPHILIOLOGY, edited by Marion B. Sulzberger, M.D., Commander, M.C., USNR; Assistant Clinical Professor of Dermatology and Syphilology, New York Post-Graduate Medical School of Columbia University; Assistant Editor, Rudolf L. Baer, M.D., Attending Physician, Skin and Cancer Unit, New York Post-Graduate Hospital, Columbia University. \$3.00.

Some questions which all of us need to have answered and are answered in this book are: What 8 skin diseases should be treated by penicillin and in what 10 is it contraindicated? In what type of syphilis is typhoid vaccine valuable in the treatment?

How many reasons are there for the use of sulfa-thiazole in the treatment of burns?

By what means may nausea and vomiting after injection or arsenic be prevented?

How many types of skin eruptions may be caused by the sulfonamides?

This is but a sample to indicate the practical usefulness of the volume.

YEAR BOOK OF GENERAL THERAPEUTICS, edited by Oscar W. Bethea, Ph.M., M.D., F.A.C.P., Professor of Clinical Medicine, Tulane University School of Medicine (retired); Senior in Medicine Southern Baptist Hospital; Consulting Physician, Charity Hospital. \$3.00.

The volume gives us the latest additions to our knowledge of sulfonamide and vitamin therapy, of the therapy of the anemias, the scientific basis of the treatment of prostatic hypertrophy with testosterone, of the latest developments in penicillin administration and the use of insulin modifications. It tells us by what route and in what disease conditions streptomycin has been found useful; it lists seven indications for the Pasteur treatment of rabies, what unpleasant symptoms may result from the prolonged use of emetine and a great many other points of management of common and uncommon disease conditions.

YEAR BOOK OF INDUSTRIAL AND ORTHOPEDIC SURGERY, edited by Charles F. Painter, M.D., Orthopedic Surgeon to the Massachusetts Women's Hospital and Beth Israel Hospital, Boston, \$3.

The advances made in the past year in the military and civil practice of this branch of surgery are covered adequately.

YEAR BOOK OF GENERAL SURGERY, edited by Evarts A. Graham, A.B., M.D., Professor of Surgery, Washington University School of Medicine; Surgeon-in-Chief of the Barnes Hospital and of the Children's Hospital, St. Louis. \$3.00.

The new chemotherapeutic agents were the subject of much of the writing on surgery of the past year. Account is given of the waning of enthusiasm for the use of the sulfonamides and of the tendency to transfer that enthusiasm to penicillin. It is con-

jected that when more is learned of the powers of streptomycin that drug will be much used in combination with penicillin. Note is made of the use of preparations of thrombin with fibrin foam in the control of oozing. It is worthwhile to note that some investigators are questioning the harmlessness of refrigeration of tissues. The latest developments in knowledge of venous thrombosis, means of prevention especially, are given considerable space. Lord's non-suture method of blood vessel anastomosis is regarded as highly successful.

YEAR BOOK OF NEUROLOGY, PSYCHIATRY AND ENDOCRINOLOGY. \$3.00.

NEUROLOGY, edited by Hans H. Reese, M.D., Professor of Neurology and Psychiatry, and Mabel G. Hasteen, M.D., Associate Professor of Neuropsychiatry, University of Wisconsin Medical School.

PSYCHIATRY, edited by Nolan D. C. Lewis, M.D., Professor of Psychiatry, Columbia University.

ENDOCRINOLOGY, edited by Elmer L. Sevringshaus, M.D., Professor of Medicine, University of Wisconsin Medical School.

The editors undertake to bring to the readers of this book the researches and the clinical observations of neurologists, psychiatrists and endocrinologists.

Reflexes are interpreted in the light of modern knowledge. Spasticity and paralysis are discussed in a way well justified by their importance. The report by Smith of Duke University of progressive paralysis in dogs cured with synthetic biotin is abstracted. The latest of the more promising work in the epilepsies, head injuries, cerebral infections and chronic disorders of the muscular system are reviewed. The present-day management of syphilis is faithfully presented.

There is a great deal on the various aspects of shock therapy. Among the articles of special interest which are abstracted are those on: the relationship of psychoanalysis to psychiatry, psychologic aspects of constitution, the Rorschach test, psychotherapy with pentothal narcosis, prefrontal lobotomy, mental disease among mental defectives, psychic trauma of operations in children, convolution therapy by the various means, spontaneous convulsions following convolution shock therapy, what happens to patients hospitalized for the first time when over 65.

The section of endocrinology provides the latest information on the diagnosis and treatment of disorders of the various endocrine glands, the interrelationship of these glands, and the therapeutic usefulness of the various preparations of these various glands.

SYNOPSIS OF PHYSIOLOGY, by ROLLAND J. MAIN, Ph.D., Professor of Physiology, Medical College of Virginia. Illustrated. *The C. V. Mosby Company*, 3207 Washington Blvd., St. Louis 3. 1946. \$3.50.

Professor Main has performed a great service in

providing doctors in practice and medical students with a book which in reasonable compass covers the things we need to know about physiology in our daily practice.

A SYNOPSIS OF THE DIAGNOSIS OF THE SURGICAL DISEASES OF THE ABDOMEN, by JOHN A. HARDY, B.Sc., M.D., F.A.C.S. With 100 Illustrations. Second edition. *The C. V. Mosby Co.*, 3207 Washington Blvd., St. Louis 3. 1945. \$5.00.

This subject is dealt with after a novel but highly useful manner. It would be difficult to find a book of more helpfulness in the solution of puzzling problems of diagnosis in this field.

It will interest a great many of the readers to read the dedication:

"To Stuart McGuire of Virginia, who embodies the genius and excellence of a lineage of great surgeons, this book is admiringly dedicated."

JUDY PAGE, Medical Technologist: A Novel by J. MARVIN FEDER in collaboration with EVELYN H. TRIBBLE. *The William-Frederick Press*, 313 West 35th St., New York. 1946. \$2.75.

This very readable book will serve to cause a great part of the laity to appreciate the clinical pathologist and the medical technologist at their true value.

UNHAPPY MARRIAGE AND DIVORCE, by EDMUND BERGLER, M.D., with an introduction by A. A. BRILL, M.D. *International Universities Press, Inc.*, New York. \$2.50.

The author has devoted many years to the study of the unconscious motives in the choice of wife or husband, and the causes of failure of many marriages. He has the ability to present the problems of jealousy, infidelity, "mental cruelty" and other marital difficulties in a convincing way.

This instructive book and potentially very useful book should gain the interest of parents, marriageable persons, doctors, judges, social workers and clergymen. Indeed it would be difficult to name a group who could not, with great advantage to society, study this book carefully.

GIVE CORAMINE IN CIRCULATORY COLLAPSE (Comdr. Lewis Gunther in *U. S. Nav. Med. Bull.*, 44:300, 1945)

The restoration of failing circulation after the use of Coramine is the same as that seen after the use of plasma, says this author. But where plasma acts in 70 to 100 minutes, Coramine acts in 5 to 10 minutes.

The ideal procedure would be the immediate administration of 10 c.c. of Coramine when shock has been diagnosed, or is anticipated, to be followed through the same needle by an infusion of plasma. There is no contraindication for the use of the drug in the treatment of circulatory collapse in shock from burns, traumatic and surgical shock, or from shock attendant on hemorrhage. The toxicity is very low.

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JAMES M. NORTHRIDGE, M.D., Editor

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No. 5

Some Usual and Unusual Mechanisms of Abdominal Pain*

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University of Pennsylvania Graduate School of Medicine

THE subject of abdominal pain is of more than academic interest to the clinician and surgeon since the practical application of the knowledge of the mechanisms underlying such pain may mean the difference between failure and success in treatment. The scope of the subject is much too great to encompass in so short a time and I humbly apologize in presenting this material in what unavoidably will appear to be a sketchy manner, and much of which will constitute twice-told tales. It is all too evident to those of wide experience that the abdomen can become a happy-hunting-ground of misdirected treatment because of the vagaries of so-called referred pain and the confusing clinical pictures which may arise from pain not due to intrinsic disease of the abdominal viscera. The embarrassing and humiliating acute appendicitis and ruptured peptic ulcer which eventuate as a frank basal pneumonia; the acute pancreatitis, perforated ulcer or acute intestinal obstruction which finally proves to be the false mask of tabetic gastric crises, the innocent gallbladders attacked in acute appendicitis and vice versa, and other unpleasanties which will be cited later, are reminders of medical fallibility perhaps slightly impolitic of me to mention here.

In order to utilize the localization, character and duration of abdominal pain as a diagnostic medium, it is necessary to have some understanding of the mediation of the nervous system in this re-

spect. At the outset, may I say that there is still much to be learned regarding the transmission of certain forms of pain from the abdominal viscera. We would prefer to know that a local sign would obtain as an indication of underlying visceral disease. This, however, is not always the case since there are instances in which true referred pain exists, and on the other hand, to complicate matters the autonomic nervous system, in times of profound environmental change, may come into action as a whole and thereby obscure the origin of the visceral disease. The abdominal organs are richly supplied with sensory nerve endings. Impulses are transmitted from these structures over the thoracic, splanchnic, hypogastric and pelvic nerves via the posterior roots to enter the spinal cord. Painful sensation is transmitted over axones which are small, poorly myelinated or unmyelinated and whose rate of conduction is slow. They therefore resemble, in both structure and conductivity, the sympathetic motor neurones. However, they differ in that they extend all the way to the spinal cord as a single fiber without synapse in the ganglionated chain between a pre- and post-ganglionic neurone. The use of the term "sympathetic nerve fibers" is incorrect as is known today. Visceral innervation is made up of mixed nerves, the sympathetic motor fibers predominating with a small admixture of sensory fibers which ultimately form part of the spinal posterior root.

*An address presented before the 47th Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, Richmond, Va., Feb. 25th, 1946.

These pain fibers, therefore, should be designated as viscerosensory fibers, and it has been learned that the endings of these fibers are the same as those existing in the skin and sclerae. The peritoneum and mesenteries which are supplied by the Vater-Pacinian corpuscles have been studied by Sheehan who observed degeneration of these nerve endings after sectioning of the splanchnic nerves. The muscularis is likewise richly endowed with nerve endings.

Transmission of sensory impulses conveying uncomfortable sensations such as nausea, hunger and satiety are transmitted by the visceral afferent fibers in the vagi. The main pathway of transmission of painful stimuli arising in the abdominal organs is in the thoraco-lumbar sympathetic trunks (Fig. 1). The upper sensory fibers from the upper abdominal viscera are found in the sympathetic motor nerves primarily in the major splanchnic trunks. Pain originating in the lower large intestine and rectum is not transmitted over the splanchnic trunks. It is believed this pain enters the 2nd, 3rd and 4th sacral roots or the terminations of the lower intercostal nerves in the parietal peritoneum. When pain occurs in chronic form it may be due to malignant infiltration of the retroperitoneal plexuses which are supplied by branches of the intercostal nerves.

Our concepts of the viscero-sensory mechanism have undergone important modifications in the past decade. Increasing clinical experience and experimental work have indicated that visceral pain is not entirely referred to the cutaneous pathways and that direct transmission is of primary importance. Mackenzie's viscero-cutaneous theory until recently has been made to account for all forms of visceral pain (Fig. 2). This theory satisfactorily explains why cutaneous hyperalgesia, occasionally accompanied by sweating and pilo-motor activity, reflex muscular rigidity and often intense superficial pain may be experienced by the patient in areas distant to the diseased organ, examples being the pain radiating down the arm in angina pectoris, the pain in the right scapular region so frequently felt in gallbladder disease, and the inguinal and testicular pain of renal colic. This theory, however, does not, as we now know, account for all forms of visceral pain. Weiss and Davis have shown that following complete cutaneous infiltration anesthesia, a deep, dull form of pain may persist and this is usually felt in the region of the diseased viscus. As opposed to Mackenzie's concept, Morley believes that pain from the internal viscera is never accurately localized on the surface of the body nor accompanied by deep tenderness or reflex rigidity of muscle until the disease process has spread to the parietal peritoneum or mesentery. Morley therefore substituted his idea of a peritoneo-cutane-

ous mechanism for Mackenzie's viscero-cutaneous reflex. This theory is acceptable insofar as it refers to an inflamed viscus with implication of the peritoneum or mesentery by the inflammatory process but it loses favor in accounting for such forms of referred pain as encountered in angina pectoris, where there is no inflammatory process and no contact with intercostal nerves.

The best clinical example of the absence of segmental pain and tenderness in the presence of visceral inflammatory disease is in appendicitis. The early symptoms of appendicitis with pain referred to the epigastrium and the zone around the umbilicus are probably due to irritation of intrinsic sensory receptors by distention. As the inflammatory process continues adjacent peritoneum becomes irritated and the pain, tenderness and predominating muscular spasm are known to vary widely in position and to correspond to the site of the underlying inflamed appendix.

In order to interpret and evaluate pain arising from the digestive tract it is essential to keep in mind the regions of the pain, whether it be from the covering of viscera with involvement of the mesenteries or whether it be due to an intrinsic disturbance of smooth muscle. The gastro-intestinal tract or the extrahepatic biliary system may be considered, as far as their primary components are concerned, as a hollow tube of smooth muscle supplied by a highly integrated afferent and efferent nerve supply, an intrinsic nerve supply, a large vascular and lymphatic bed and an inner layer capable of secretion and absorption. Recent experimental work and observations in human material indicate that the afferent pain stimuli from the gastro-intestinal tract, gallbladder and common bile duct are due to an increased smooth muscle tension secondary to distention of the viscus or adjacent spasm and constriction. Distention causes pain and at the same time usually provokes muscular contraction distally. Jones made valuable contributions regarding pain originating from the digestive tract producing distention of the bowel by means of distended balloons and noted a type of painful sensation ranging from a sense of burning or pressure to sharp pain. Reference of pain arising from the stomach was largely, but not invariably, epigastric in localization. Distention of the duodenal cap produced sharply localized midline or right epigastric pain in most instances. Distention at the duodeno-jejunal junction provoked pain which was felt in the area about the umbilicus. Jones noted that almost without exception distention of the jejunum and ileum caused fairly well-localized umbilical pain, the pain arising from the jejunum occurring at a slightly higher level than that from the ileum. Distention of the ileocecal valve produced pain at McBurney's point

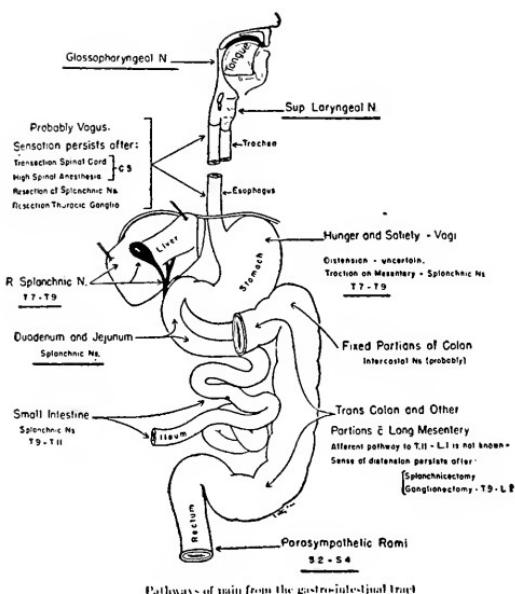


FIG. 1
Pathways of Pain from the gastro-intestinal tract (J. C.
White—Pain—Permission of Res. Publ. Assoc. Nerv.
Ment. Dis.)

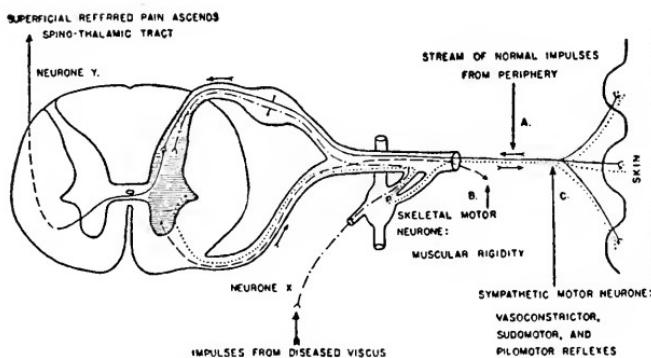


Diagram to illustrate Mackenzie's theory of referred pain.

Afferent impulses from a diseased viscera enter the posterior horn of the spinal gray matter over neuron X and set up the "irritable focus" (shaded area). The normally subconscious afferent impulses from the body surface which traverse neuron A now jump the synapse to neuron Y and reach the thalamus as pain which is referred to characteristic cutaneous areas. The motor neurons B and C may also be discharged and cause reflex rigidity of skeletal muscle, or vasoconstrictor, sudomotor, and pilomotor phenomena.

FIG. 2
White and Smithwick—The Autonomic Nervous System.
(Permission of the Macmillan Publishing Co.)

with radiation in the direction of the epigastrium. Less well-localized, but definitely uncomfortable sensations, were produced by distention of the colon. Here the pain was mainly referred to the hypogastrium near the midline. This lack of distinct localization did not hold as regards certain parts of the colon such as the hepatic flexure, the splenic flexure and the sigmoid, where the pain was experienced over that portion which was being distended. Another significant finding was that pain due to distention of the sigmoid colon was felt in the left lower quadrant almost directly over this part of the bowel. Stimulation of the recto-sigmoid produced suprapubic or sacral pain. It has been observed that distention of the gallbladder produces epigastric discomfort. However, when the gallbladder irritates the parietal peritoneum, sharp localization of pain is experienced in the abdominal wall over the point of contact. Epigastric pain is also produced by distention of the common bile duct. Pain can be felt not only in the epigastrium but in the right upper quadrant in distention of the gallbladder. The radiation of pain to the back has been observed and is experienced usually at the level of the scapula. This may happen in a third of cases in which distention of the gallbladder occurs. It is not entirely clear what is the exact pathway for the afferent impulses which arise from the gallbladder and common duct. It is known that the pain of biliary colic may simulate to a remarkable degree the pain of angina pectoris as regards both its distribution and its character.

In an attempt to clear up some of the fog surrounding the nature of pain arising from the gastro-intestinal tract, particularly the stomach, Stewart Wolf and Harold G. Wolff have carried out a series of illuminating experiments on a person having a large permanent gastric fistula. It was possible by means of this orifice to study the response of the stomach in both its normal and abnormal states. These workers say "most observers agree that gastric pains are referred to one or the other of the upper quadrants of the abdomen, often to the mid-epigastrium. Distant reference occurred only when the pain arose from the whole circumference of the stomach as in the case of distending the organ with a balloon or an unusually vigorous contraction. Under these circumstances the pain was felt in the left lower quadrant just above Poupart's ligament. Cutaneous hyperesthesia accompanying these abdominal pains was not noted." Following the application of various forms of sensory stimuli to the wall within the cavity of the stomach the following symptoms were produced: heartburn due to stimulation of the mucosa lining the cardiac end of the esophagus; painful sensations could not be elicited by stimulation of the normal gastric mucosa, whereas in the presence

of inflammation and edema, minor stimulation applied to the mucosa caused pain; pain resulted from distention of the muscular and peritoneal coats of the stomach either by pressure or by inflating a balloon within the viscus; very vigorous contractions of the stomach were found to induce pain; sensitiveness to pain was increased in the hyperemic mucous membrane.

The mechanism of pain incident to peptic ulcer has been, and is still, the subject of discussion. I shall merely cite the present concept as derived from a consensus as expressed in the literature. In the main it seems that the pain of peptic ulcer arises in the ulcer itself, and in this respect painful peptic ulcer behaves similarly to a cutaneous lesion supplied with spinal nerves. Moreover, it is believed as a result of experiments by numerous workers that the peptic ulcer is produced only in the presence of an acid gastric juice, and that it is the acidity of the gastric juice which in turn produces pain. It has also been suggested that excess acid not only sensitizes the pain mechanism but likewise stimulates the motor mechanism with respect to increased peristalsis.

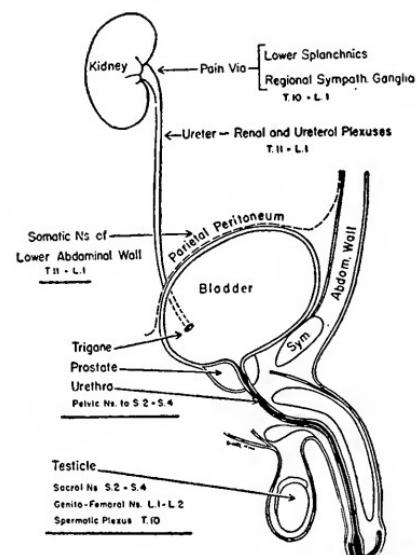
Another source of abdominal pain which may go unrecognized at times is that arising from disease of the urinary bladder and ureters. McClellan and Goodell, in an experimental investigation employing faradic stimulation to the bladder, ureters and kidney pelvis, were able to map out reactions to pain in these structures and localize these areas. It was found that painful sensation in the bladder was indicated by the patient on the skin of the abdomen approximately over the location of the stimulus on the bladder wall, providing this was in the subperitoneal portion of the bladder. The ureters responded to a threshold intensity of stimulus and provoked a discretely localized painful area in the skin 5 cm. in diameter. Pain could be brought about in the ureters both by faradic stimulation and by distention with a balloon. The pain was always on the same side as the stimulus and was located in the skin of the abdomen following a line drawn along the lateral edge of the rectus muscle. At times the cutaneous area of pain was hyperalgesic. The sites of cutaneous pain ascended with the ascending stimulation of the ureter as indicated in Figure 3. Stimulation of the uretero-vesical junction and the first 5 cm. of the ureter produced pain experienced in the suprapubic region on the side stimulated only. In some subjects the pain extended up to the umbilicus in the midline upon stimulation of the uretero-vesical junction. Occasionally the abdominal pain was generalized. McClellan and Goodell also observed that following the subsidence of pain produced by faradic stimulation of the ureters the muscles of the abdominal wall on that side in the loin were con-

tracted. Following this the subject experienced considerable aching and pain in these muscles. Another subject who was stimulated at the 25 cm. zone of the ureter also experienced contraction of the abdominal and loin muscles on the same side. After the subsidence of the stimulus pain she suffered from continuous pain for many hours followed by nausea and vomiting. It was observed that splinting of the abdominal muscles outlasted application of a painful stimulus in the upper part of the ureter and that an aching pain, delayed in onset, often increasing in intensity and lasting several hours, resulted from sustained contraction of skeletal muscle.

Afferent impulses from the bladder run centrally over several pathways and the upper route for painful sensation is through the 2nd, 3rd and 4th sacral nerves. Subsidiary pathways run in the last intercostal and first lumbar nerves from the peritoneal covering of the fundus of the bladder and possibly also in the superior hypogastric plexus. Ureteral pain reaches the spinal cord over the 11th and 12th thoracic and first lumbar posterior roots. (Fig. 4).

The serous membranes of the thorax may become inflamed and give rise to pain. It is known that stimulation of the visceral pleura does not produce a painful response. The parietal pleura does react to stimuli with the production of pain usually accurately located over the site of irritation. This is due to the fact that the parietal pleura is richly supplied with sensory fibers from the intercostal nerves. In the main, it is agreed that pain arising from the parietal pleura never gives rise to referred pain in the neck or abdomen.

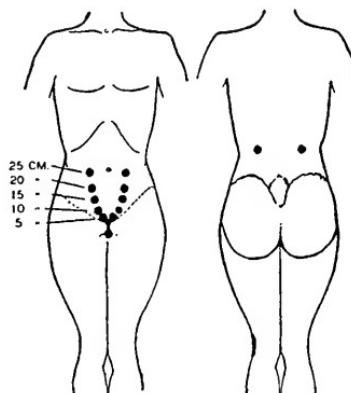
The diaphragmatic pleura derives its sensory supply from the phrenic nerve and the lower six thoracic intercostal nerves. The peripheral or posterior portion of the diaphragm is supplied by the 7th to 12th dorsal segment of the cord and irritation of this area may produce true referred pain.



Pathways of pain from the urinary tract, prostate, and testicle

FIG. 4

Pathways of Pain from the urinary tract, prostate and testicle. (J. C. White—Pain. Permission of Res. Publ. Assoc. Nerv. Ment. Dis.)



Schematic representation of the areas of pain reference in the skin from stimulation of the kidney pelvis and the ureters at the uretero-vesical junction and 5, 10, 15, 20 and 25 cm. upwards therefrom.

FIG. 3

(McLellan and Goodell—Pain—Permission of Res. Publ. Assoc. Nerv. Ment. Dis.)

Diaphragmatic pleurisy which may be a common complication of basal pneumonia occurs in as high as 5 to 10 per cent of such cases. The referred pain of diaphragmatic pleurisy may appear early in the disease and endure for a short time. Referred abdominal pain is the most prevalent form and usually involves the upper quadrant. However, it may extend over the lower quadrant of the same side. It is this type of referred abdominal pain which may mislead the clinician or surgeon. This pain is spontaneous and hyperalgesia of the skin area and increased musculo-cutaneous reflexes are constant findings. Capps, in a series of 65 cases of diaphragmatic pleurisy, observed that the pain and tenderness occurred over the gallbladder area in 10 cases; in the vicinity of the umbilicus in 15; near McBurney's point in 2; over the navel, splenic and lumbar region in 6.

The dramatic, disturbing and at times perplexing types of abdominal pain encountered in the visceral crises of tabes dorsalis originate in disease distant from the area expressing pain. Ten per cent of tabetics suffer from some variety of visceral crisis at some time in the course of the disease. An understanding of the pathogenesis underlying the pain mechanism is of considerable clinical importance when it is possible for Woltmann to report 31 needless laparotomies performed in a series of 120 cases of gastric crises, and for Nuzum to cite 97 unnecessary abdominal explorations among 1000 tabetics.

Of the visceral crises the gastric type predominates. The intestinal crises and rectal crises may provoke pain of a nature to becloud differential diagnosis. Other forms of tabetic visceral crises—the olfactory, the gustatory, the pharyngeal, the laryngeal, the salivary, the mammary, and those involving other organs—are not within the scope of this presentation. The exact explanation of the neural mechanism in the production of gastric crisis still lies in the realm of controversy. Generally it is agreed that a toxic-infective irritation of sensory protoneurones underlies the expression of pain. The divergence of opinion relates to the point of origin of irritation of sensory fibers, the three views extant being involvement of 1) funicular sensory pathways, 2) root ganglia and 3) dorsal roots. Of these three views the most recently acceptable discussions have centered on the consideration of the primary lesion affecting the posterior roots. The morbid process may be regarded as a radicular perineuritis consequent on adjacent meningeal changes. The vomiting which accompanies tabetic crises cannot be relieved by paralyzing the splanchnics with procaine, and therefore the stimuli are undoubtedly transmitted over the vagi. The painful crises have not yielded to section of the rami communicantes to the major splanchn-

nic nerve, to posterior rhizotomy, or to splanchnicectomy. They have been relieved by proper deep section of the spinothalamic tracts, thus indicating the pathway of sensory appreciation.

Abdominal pain may arise from metabolic disorders—hyperthyroidism and diabetes mellitus or from hypoglycemic states due to hyperinsulinism, or of psychogenic origin. Acute abdominal pain occurring during the course of thyrotoxicosis has been reported by many observers. Acidosis of diabetes mellitus requires differential consideration in abdominal catastrophes. Chronic and recurrent abdominal pain may be due to unrecognized hypoglycemia, not infrequently resulting in unnecessary surgical operation. Sandler reported five such cases in which three appendectomies, one herniorrhaphy and one cholecystectomy were performed. It is most likely in these metabolic disorders that the mediation of stimuli to the gastro-intestinal tract is through the vegetative nervous system. In experimental, insulin-induced hypoglycemia in man and animals, Bulatao and Carlson observed that when the blood sugar was between 80 and 70 mg. there was an increase in gastric tone, and in the height and frequency of contractions, gradually developing into tetany. The pain in hypoglycemic patients may be generalized or localized, and may occur in the epigastrium, right upper quadrant, or in the lower quadrants, depending on the segment or segments of bowel stimulated either by vagal components or cerebral representations.

The lesions which involve the spinal cord itself, its roots, the meningeal envelopes and the bony canal protecting it are many, and in order to produce referred pain to the abdomen these lesions must implicate the posterior roots, dorsal root ganglia, or intraspinal segmental sensory neurones from thoracic 7 to thoracic 12, and lumbar 1. The pain is therefore segmental in distribution. Some of the conditions which may produce this type of referred pain are intra- or extra-medullary spinal cord tumor, meningioma, chondroma, osteoma, hemangioma, chordoma, myeloma, metastatic malignancy, vascular anomalies of the spinal blood vessels, Pott's disease, Paget's disease, Kummel's disease, Hodgkin's disease, postural scoliosis or lordosis, arthritis, herpes zoster, hypertrophied ligamentum flavum, and ruptured intervertebral disc.

The importance of considering some types of abdominal pain as of cerebral origin is becoming more apparent to practicing physicians as increasing clinical and experimental evidence is presented. Whenever abdominal pain has continued to escape explanation on the basis of the many conditions already enumerated, let the cautious yet enterprising clinician seek the possible solution in the brain. Abdominal pain may have its remote origins in

conditions such as brain tumor, cerebral hemorrhage or thrombosis, encephalitis, migraine, symptomatic epilepsy and aberrations of the psyche. The disturbances of gastro-intestinal motility and attending spasm in emotional states is common knowledge and it is not unlikely that the initial impulses originate in the frontal lobes.

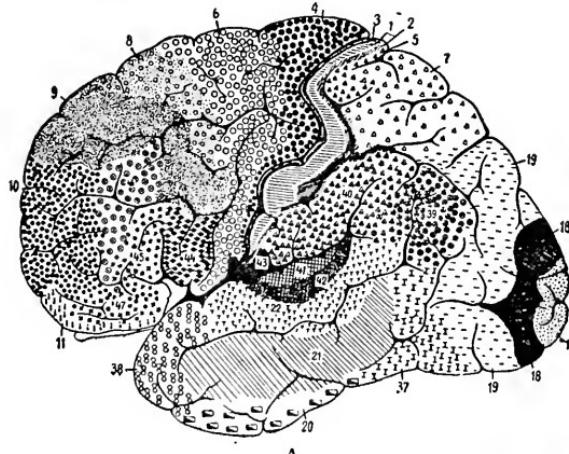
The clinical and experimental work which substantiates these statements is too voluminous to cite here and I will therefore confine myself to recent observations regarding the origins of cerebral initiation of abdominal pain.

Cushing first called attention to the role played by the diencephalon in the production of acute lesions and altered function of the gastro-intestinal tract, following brain injury (Fig. 5). Fulton and his co-workers have shown that stimulation of area 6 results in changes in gastro-intestinal activity. They also demonstrated acute intussusception with fatal obstruction following bilateral ablation of the frontal lobes or its parts. Hypermotility of the stomach and pyloric spasm, lasting several days, have followed experimental ablation of the frontal lobes. Penfield and Gage stimulated area 5 of the exposed brain of a patient, resulting in pain in the lower right quadrant of the abdomen followed by a convulsive seizure. Spiegel and his co-workers experimenting with dogs showed clearly that the whole gastro-intestinal tract could be influenced not only from premotor area 6, as previously described by Fulton, but also from foci in a postmotor region, area 5 or 3. The effect of stimulation of these areas may be synergic in all parts of the gastro-

intestinal tract, or increase of activity in one part may be associated with inhibition in other parts of the digestive system. Occasionally only a limited part of the gastro-intestinal tract is affected.

With these data well established the clinical symptoms of abdominal pain occurring in the cerebral conditions just mentioned becomes understandable. Wechsler has reported a group of brain-tumor cases in which the patients had been treated for some time for abdominal pain resembling that of appendicitis, renal colic, gallbladder disease, and gastric or duodenal ulcer. Several of these patients had abdominal section performed before the origin of pain was discovered. Cerebral hemorrhage or thrombosis which may produce irritation of areas 6, 5 or 3 in the frontal and/or parietal lobes may also induce abdominal pain.

In previous communications I have called attention to a form of paroxysmal abdominal pain which represents the abdominal projection of abnormal cerebral discharges occurring in the frontal and/or parietal lobes. In a fairly representative series of cases it has been possible to trace a causal relationship between some morbid change in the brain and the attacks of abdominal pain. Several of the patients in this series had abdominal operations without discovering diseased viscera, and the attacks of pain continued. The majority of these patients had diagnoses made of practically every disease condition to which the contents of the abdominal cavity are heir, and when all these proved wanting the patients were called psychoneurotics. Half the cases revealed a history of severe head



injury. One had had angioneurotic edema of the brain with damage to the frontal and parietal lobes. Other showed organic cerebral disease and two revealed no demonstrable morbid change.

In order to arrive at the diagnosis of abdominal epilepsy I have outlined the following requisite criteria:

1) Cases must be examined intensively, by all available methods, to rule out intrinsic disease of the pelvic, abdominal and thoracic viscera, morbid involvement of the spinal cord or peripheral nerves and psychosomatic projection mechanisms.

2) Historical data regarding the possible existence of cerebral disease or dysfunction should be uncovered.

3) The behavioristic occurrence of the pain should adhere, in major respects, to the pattern of epilepsy.

4) The presence of associated epileptic phenomena, either preceding or during the presenting episodes of abdominal pain, will form corroborative evidence of the nature of the disorder.

5) Positive neurologic signs and laboratory findings including cytologic and chemical studies, roentgenologic studies of the skull and electroencephalographic studies, indicating the existence of a cerebral structural or physiologic disorder, should be in evidence.

6) Salutary effects of anticonvulsant drugs on the occurrence of abdominal pain should be exhibited, and the influence of these drugs on the electroencephalogram should in most instances parallel the clinical results.

In closing, may I say that I am aware of my dereliction in making many omissions in enumerating the possible clinical entities which confront the abdominal surgeon and the clinician, but if I have cast only an occasional revealing ray of light on the broad underlying mechanisms subserving abdominal pain and on the pitfalls which beset the path of correct diagnosis, I will have some measure of satisfaction.

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PORPHYRIA

(M. H. Stiles, Spokane, in *Northwest Med.*, Mar.)

Of acute porphyria, 240 cases had been reported up to 1939, many more since.

The term porphyrinuria should be reserved to indicate those cases in which the porphyrins in the urine are present in amounts above the normal range, a condition which exists in a great variety of diseases. The porphyrias are clinical entities which may or may not exist with evident porphyrinuria.

The porphyrins are found in nature, chiefly as a part of pigments such as hemoglobin, myoglobin, cytochrome and catalase. Coproporphyrin and uroporphyrin are significant because of their presence in increased quantities in cases of porphyria.

The porphyrias may be 1) congenital, 2) acute and 3) chronic.

The first is characterized by photosensitivity, mostly in males, discoloration of the teeth by the contained uroporphyrin and excretion of large amounts of uroporphyrin-I so that the color of the urine may be dark red at times. It is a very chronic disease, features of which are blistering, scar-formation and eventual deformity of the exposed parts as the result of the light sensitivity.

The acute form appears usually during the third and fourth decades, in females in ratio of 3 to 1. Photosensitivity is rare. No pigmentation of the teeth. Uroporphyrin-III is almost always predominant in the urine. Usually in recurrent attacks, first indicated by complaints referable to the abdomen or central nervous system.

Acute porphyria may be idiopathic, or be secondary to some recognized toxic factor. The latent type is asymptomatic, despite laboratory evidence of the pigment disorder.

Chronic porphyria includes cases characterized by a pronounced increase of porphyrin excretion and slight photosensitivity, as well as by symptoms referable to the intestinal tract. These cases probably represent either congenital or acute porphyria in mild form.

A SINGLE SUBCUTANEOUS INJECTION OF PENICILLIN IN BEESWAX-PEANUT OIL

(Capt. Wm. M. Kirby et al., in *JL. Lab. & Clin. Med.*, Mar.)

Since absorption is equally good from the subcutaneous tissue of the thigh and the arm, many sites of injection are available in patients requiring prolonged treatment. It seems probable that most patients with infections can be treated successfully with a single daily injection. The fact that larger amounts of penicillin are required than with penicillin in saline is of little importance in view of the abundant supplies of penicillin now available, and is more than compensated for by the convenience of being able to administer an entire day's treatment as a single subcutaneous injection.

Effective therapeutic concentrations of penicillin are maintained in the blood stream for 24 hours or longer following a single subcutaneous injection of 600,000 units of penicillin in beeswax-peanut oil. Results following intramuscular injections are somewhat less satisfactory than with the subcutaneous route.

THE USE OF X-RAYS IN THE TREATMENT OF INDURATIONS DUE TO SCARS AND CHRONIC INFLAMMATION

(R. D. S. Rhys-Lewis, in *Proc. Royal Soc. of Med.* (Lond.), Feb.)

When the acute stage of an infection of the soft tissues has settled down, there is often an indurated area where resolution is delayed. This can usually be successfully treated with x-rays, in cases in which surgery, physical treatment and chemotherapy have failed, and the induration rapidly made to disappear.

Thickened scars following recent injuries or surgical intervention for complicated and infected wounds showed keloid formation on the surface with firm induration deep to the scar composed of actively dividing cells and deep keloid formation. Irradiation of such scars is followed after an interval of time by pallor and flattening of the surface keloid with softening of the underlying thickening and a resultant increase in mobility and restoration of the function of the affected part.

Irradiation of old contracted fibrous scars is not only useless, but unwise. They are very resistant to the action of x-rays, and high doses given in an attempt to influence them result in an increase in fibrosis or even in tissue damage and breakdown in the form of radionecrosis.

Protein Solution in Surgical Practice*

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WITH THE ADVANCE in the study of the chemistry of the body fluids, and blood in particular, it seems almost providential that so many patients recovered from conditions of which we knew little and for which we did less. I have particular reference to hypoproteinemia.

Scant thought has been given, until recently, to the necessity of supplying the protein requirements of the body. Glucose, salts and water have been given when protein was needed, and not infrequently these have been a therapeutic liability rather than an asset. Those engaged in experimental work have blazed a trail in the direction which we have overlooked or followed without enthusiasm. For many years Whipple has done a magnificent work in metabolism in animals and pointed out that normal nitrogen balance cannot be maintained without adequate proteins, and they must be furnished, if not by the way of the gastro-intestinal tract, then parenterally by one or more available routes. Plants can synthesize protein from the air, earth and water, but man must ingest his proteins, then assimilate and distribute them. The contents of the proteins in the foods differ not only in quantity and composition, but likewise in their facility of utilization. For example, milk contains but 3 per cent protein, all of which is converted into amino acids, while gelatin, 90 per cent of which is protein, has very little food value, because only a very small fraction of it reaches the ultimate destination of most proteins. In evaluating any food or solution so used, its biological value must be recognized, and not graded merely by its protein content. Most of us underestimate the value of proteins and may even point out that certain cults or persons do not have meat as a part of their diet. If they are healthy, we can be sure that protein is provided through some other source, or they occasionally fall from grace. Matthews is responsible for the statement that every living animal cell contains protein in some form. The human body contains 1600 proteins. When proteins are provided as food, the gastric juice hydrolyzes the protein molecule and possibly liberates a small quantity of amino acids in the stomach; but the greatest disintegration and digestion takes place in the small intestine where the end product is almost wholly amino acid, except a small amount of skatol and indole which is liberated in the bowel. The portal vein transfers the amino acids to the liver, where further divisions occur in the proteins, some for storage and others are blood born to their final allotted field of activity. It is said that the liver is

the factory, the agent, and the bank of the proteins. The plasma of the blood is almost wholly the product of liver metabolism, and in turn the plasma conveys its protein to practically every cell in the body. We have reason to believe that the proteins of the body are segregated or classified into three groups—the fixed, the labile, and the transitional, and their significance is apparent when we can state that the labile are largely in the intercellular fluids and is used in normal metabolism; the transitional are found in the muscle and organs, including the liver, and respond to unusual demands, while the fixed, the last to succumb to an exhausting disease or a vicious infection, are found in the plasma of the blood and probably in the liver also. The loss of weight after a protracted illness is not at the expense of adipose tissue alone, but there is a considerable contribution by the proteins, as evidenced, in severe cases, by lowered levels of plasma proteins. One is very prone to visualize loss of weight in loss of fat, but if the chemistry of the blood is taken into the computation, protein loss is just as evident and often more serious.

The proteins not only furnish calories and essential chemical elements but their presence in the plasma regulates, in a great measure, osmotic pressure and fluid balance. In the field of immunity, the globulin of the blood dominates the reactions. Instead of being a passive colloid, as we once opined, the proteins are an energizing constituent of the blood.

It is possible to estimate the amount of protein a patient uses daily, and while such a laboratory procedure is not warranted in the routine case, it is a standardized and practical procedure. We have made studies on scores of patients and have obtained data which we believe are useful in surgical practice. By collecting the total urine excreted in 24 hours the amount of nitrogen can be estimated; each gram of nitrogen is equivalent to 6.25 grams of protein. It is then a simple matter to determine the number of grams of protein used daily by the patient. If the patient consumes as much protein as he excretes, he is said to be in nitrogen balance, and if he excretes more than he assimilates, he is in negative balance. Health demands that a balance be maintained. If our fixed proteins are depleted and we reach a state of hypoproteinemia, we soon arrive at a state to be compared to that of a bank whose depositors have withdrawn funds until the bank's solvency is impaired.

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The problem reduces itself to supplying enough nitrogen in the form of assimilable proteins to compensate for the loss as estimated by the nitrogen excreted. If it is approximately the same, the patient is in nitrogen balance. Protein deficiency may be due to (1) faulty metabolism, (2) deficient intake, (3) abnormal digestion and absorption, (4) excessive loss, (5) hypermetabolism, (6) liver dysfunction, or (7) other factors such as infection, constitutional defects, etc.

The surgical patient, besides carrying the extra burden of recuperation, may, in addition, be the subject of one of several causes of protein deficiency. It is a matter of little concern if a patient makes a satisfactory recovery from a major operation with a loss of six to twelve pounds, because in the course of a few weeks this weight will be restored. Riegan and her associates at the University of Pennsylvania noted that the average weight loss in 304 operative cases was 6.5 pounds in a hospitalization period of 15.2 days. In 17 abdominal cases there was a loss of 12.4 pounds. This loss is divided unequally between the proteins, fats, and carbohydrates, but only the proteins can be measured.

Checking the protein levels of 50 patients entering Gallinger Municipal Hospital using 6 grams per 100 c.c. as a low normal, we found 16½ per cent of cases of cholecystitis, 33 per cent of carcinoma of the stomach, 33 per cent in non-bleeding ulcers, 50 per cent in lung abscess, and 33 per cent in acute cellulitis were below normal to varying degrees. These figures were taken on cases as they were admitted and prior to any treatment. It is only fair to state that these were indigent patients who possibly lived at a lower nutritional level than those seen in our offices, but this is not necessarily so.

We embarked on a study of twenty uncomplicated hernioplasties postoperatively, our object being to determine the nitrogen balance in uncomplicated surgical cases. In 19 of the 20 on routine hospital care and food, over a period of nine days the average daily loss of nitrogen—that is, the negative balance—was 10.68 grams, or 613 grams of protein per patient at the end of nine days. One patient was in positive balance, due no doubt to quantities of food brought in by relatives and friends. One could conclude from this that the hospital diet was not liberal or well balanced; with this I could concur, but it may be a deficiency common to many hospitals.

In a careful study of hypoproteinemia by Ariel and his associates it was revealed that 59 per cent of cases of carcinoma of the stomach, 36 per cent of carcinoma of the colon and rectum, and 33 per cent of benign gastro-intestinal lesions had a recognized hypoproteinemia. Ravdin furnished proof

in his experimental work, later confirmed clinically, that edema about anastomoses may induce obstruction. Disruption or dehiscence of wounds may be a sequence of hypoproteinemia. Kazoll reported a 5 per cent drop in the average total plasma protein in patients after operations and Kastin, Boden, Leiner and Barsham report a .5 gram drop or more in 58 per cent of major abdominal operations. There is a large amount of literature accumulating on this subject and Wilensky's paper in May, 1945, contributed one of the most comprehensive surveys on the subject. Abbott and Mellors, Altshulen and Mulholland have made valuable contributions. In view of the observation that in certain types of surgical patients the occurrence of hypoproteinemia is not uncommon, the administration of proteins either orally or parenterally is destined to take a more important place in our pre- and post-operative treatment.

Madden and associates at the University of Rochester published only this month the result of an elaborate study of "Amino Acids in Therapy and Disease" in which they were used both orally and parenterally to supply the required protein, and cite cases in which amino acid solutions were used to improve the general condition of patients particularly in colitis, and in promoting the healing of skin grafts. Co Tui strongly recommends protein solutions parenterally in peptic ulcer and his reported cases apparently warrants his expressed views.

In 1936 Elman described the use of an amino acid solution for parenteral use, and subsequently he and many others have studied the use of other similar ones. We have devoted considerable time to the use of a protein digest solution prepared by an enzymatic digest of mammalian protein. It is non-toxic, pyrogen-free, heat-sterilized, and can be stored at room temperature and administered from the original container intravenously. It is a 5 per cent protein solution containing free amino acids and polypeptides. Accurate records have been kept of each intravenous injection, numbering now over three hundred, and except for research purposes, was used on the more seriously ill patients, particularly those whose plasma we knew or believed to be depleted.

Forty-nine patients received from 1 to 3 litres per day, and one patient received 1 litre for 21 days. The greatest quantity given to any one patient was 40 litres.

In the first fifty injections there were seven reactions, five of which were pyrogenic and due to poorly cleaned infusion sets. In the last 250 cases there have been no reactions. Too rapid administration of the solution may induce a reaction and from experience, we have found the preferred rate

of administration to be not more than 500 c.c. per hour. No instance of thrombophlebitis occurred.

The various solutions of this type are not designed to replace feeding, but in so many instances food cannot be tolerated or its use is contraindicated, depending somewhat on the nature of the operation. We used this solution alone and in combination with food to maintain nitrogen balance. In some cases, largely for experimental purposes, we withheld all food and attempted to maintain nitrogen balance by intravenous use of the fluid alone. We were not able to constantly do this, but we felt that we were able to divert the tax on the fixed protein of the body. Instead of a patient being in negative balance 8 to 10 grams of nitrogen daily, we could reduce the loss to zero or 2 or 3 grams.

If we would maintain a patient in nitrogen balance pre- or post-operatively the protein solutions should be augmented by glucose and possibly vitamins. At present we are applying ourselves to the problem of establishing a workable formula for the intravenous use of proteins and carbohydrates (glucose) and believe it will be possible to present in the near future some simple concrete observations which will have practical application at the bedside. It may be desirable to consider the addition of gelatin in those cases in which shock may be a major consideration.

It probably occurs to many that plasma does all or more than an amino acid solution could possibly do. We fully agree to such a statement, but the cost of plasma reserves its use to the exceptional rather than the routine case.

On many of these cases under our observation, studies of the hematocrit, albumin-globulin ratio, blood counts, blood pressures and many other details were noted, but that material is not particularly relevant.

It is our purpose to emphasize the well known facts that many patients are subjected to operation deficient in protein and lose protein (negative nitrogen balance) throughout their convalescence. In the poor-risk patient, or in the event of complications, this becomes a matter of major importance. Estimation of the protein level from time to time in the seriously ill should be a part of the examination of the patient. It is now possible to supply proteins in large amounts, and safely, by the intravenous method.

Brunschwig reports a case of jejunal fistula following removal of a cyst from the kidney in which intravenous nutrition was the only method used for feeding for eight weeks, using dextrose in saline solution, a protein solution and vitamins G, B and K hypodermically. Gelatin and blood transfusion were also used occasionally. This is an exceptional period in which no food entered the stomach and invites speculation on the possibilities

of parenteral feeding in surgery of the gastrointestinal tract.

Protein by the parenteral route is not to be depended upon to furnish all the food for the patient, but may temporarily tide him over a critical period and also supplement the usual feedings. While it is desirable to maintain nitrogen balance, do not expect it with amino acid solutions alone, but add the carbohydrate solution for their protein-saving qualities. The addition of vitamins undoubtedly has its place, but that is quite another problem, now in process of clarification.

With several protein solutions available for intravenous use it would seem only rational in the approach to grave surgical operations, that hypoproteinemia should be considered always as a possible complication and nitrogen balance should be maintained by rational feeding, either through the natural channels or parenterally.

COMMENT

In those institutions where studies have been made in protein levels, either prior to or after operations, the number of patients found to have low levels has been surprisingly large, and it is not without significance. Poor healing and wound separation has been laid at the door of such deficiency, possibly in some instances unjustly, but the reports from our medical confreres on the treatment of peptic ulcers and colitis, to mention only two conditions, leads us to put much credence in the statement that proteins play a major part in reparative processes.

We have probably overdone the administration of glucose and electrolyte solutions to the neglect of the proteins, and we seem on the threshold of a trend toward the latter, combined with selected vitamins.

It is not necessary to make nitrogen balance determinations in all surgical cases, but it would be in the interest of the patient to obtain the protein level and occasionally the albumin-globulin ratio in the complicated or unresponsive cases. There are several protein solutions available for intravenous use and one at least that may be used subcutaneously. The number for oral use is ample. Nitrogen balance can be maintained or show a slight deficit by the oral or parenteral administration of protein solutions; but by the use of glucose solutions and salt, the balance is easily attained. From 60 to 100 grams of protein and 100 to 200 grams of glucose intravenously will maintain most patients in positive balance unless liver damage is present. The intravenous or subcutaneous administration of these solutions should be discontinued if the patient retains and digests his nourishment when given orally. The addition of vitamins has a very definite place in the pre- and post-operative care of patients, but the consideration of them is beyond the scope of this paper.

The Use of Diathermy in General Practice*

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AN ELECTRICAL CURRENT may be direct, flowing constantly in one direction; or alternating, reversing its direction regularly. In the ordinary house current this direction change occurs sixty times a second, whereas in a short-wave diathermy machine it may reverse three million times a second. Alternating current is said to be oscillating, and a machine that causes this is called an oscillator.

A simple oscillator consists of two metal plates placed parallel to each other forming a condenser. These plates are charged with electricity so that one has a positive charge and the other a negative one. Then a wire is connected from one to the other. A coil is incorporated into the wire to increase its inductance. When this connection is made the current will run from the positive plate of the condenser to the negative, but in doing so the negative plate will become charged positively thus reversing the polarity and causing the current to flow back. This produces an oscillation which gradually dies out.

If we incorporate a spark gap into the circuit and a source of electrical energy the condenser will be charged until a spark jumps the gap when an oscillation will be set up which will be repeated. This type of current is called the *damped* high-frequency current.

In order to produce undamped or regular oscillations an electronic tube is substituted for the spark gap. An extra condenser may be inserted.

If we connect wires to each end of the inductance coil in the apparatus and attach them to flat plates, or electrodes, and place them opposite each other on a part of the body, we have a complete diathermy machine. A coil of wire may be substituted for the two plates in which case we have an inductotherm machine.

SURGICAL APPLICATION

One form of application of the high-frequency current is electrodesiccation or fulguration, in which only one electrode is used as in the familiar Hyfrecator machine. A fairly high voltage is used so that a spark jumps from the pointed electrode to the tissue under treatment destroying it by the intense heat which is localized and quite superficial. This method is useful for the removal of warts, moles, hemangioma, and sometimes bladder tumors.

Another form of application is electrocoagulation in which case two electrodes are used—one large and flat for distributing the current over a large

area and for all practical purposes inactive; the other a small metal ball which is pressed against the tissues as they are gradually coagulated to a depth depending on the strength of the current, the time of application, and the type of tissue being treated. This method has been used in the removal of malignant growths. It is also useful for hemostasis since it seals off small blood vessels reducing hemorrhage.

A third form of application is the electric cutting current which uses a large indifferent electrode and a rather dull needle for the active electrode. The needle is moved along smoothly while being pressed against the tissues. An intense current is used and a sharp cut results, probably due to explosion of the cells from the sudden high heat produced. A certain amount of hemostasis is produced by sealing the small blood vessels. Large vessels may be grasped by a hemostatic forceps, and the same current passed through the forceps, thus sealing the vessels. The undamped current is used.

Adequate cutting may also be done with the damped current with a spark machine if the current is strong enough, and indeed better hemostasis is produced. Also there is less chance of transplantation of malignant tissues.

MEDICAL APPLICATION

In ordinary diathermy the machine is connected to two lead-foil electrodes which are placed opposite each other over the area on the body to be treated. The current passes through the body along the lines of least resistance; thus muscle tissue, vascular organs, etc., will conduct more current than will fatty tissue or bone, and will be heated more. The amount of heat varies as the resistance of the tissue and the square of the current. Naturally the skin will be heated somewhat since the sweat can not evaporate under the electrodes. Hence it has been found advantageous to use a current of higher frequency and provide an air-gap between the skin and the electrodes, thus allowing the deeper tissues to be heated more without burning the skin. This requires an increase of frequency from the 300,000 used in regular diathermy, to 3,000,000 in a short-wave diathermy.

INDICATIONS FOR THE USE OF SHORT-WAVE DIATHERMY

Sprains: At first it is advisable to use cold applications to help stop any deep bleeding that may occur, but after the first day there is edema and decreased local metabolism, both of which can be helped by the application of heat. Diathermy is

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an excellent method of producing heat deep in these tissues. This causes dilatation of the blood vessels increasing the blood flow and promoting healing. The heat also gives relief from pain which would be worth while even if no other benefits accrued. Treatments are usually given daily for at least twenty minutes.

Bursitis: Diathermy is almost a specific for subdeltoid bursitis. It should always be given a chance before considering surgery. The results obtained in my own shoulder several years ago in a case of acute subdeltoid bursitis was what determined me to buy a diathermy machine. Even large calcifications will disappear with adequate diathermy.

Tenosynovitis:—If the splint is removed daily and 20 minutes of diathermy applied, surprisingly good results will usually be achieved in this troublesome condition.

Chronic Arthritis:—One should remember that often in a hypertrophic arthritis too much heat may aggravate the symptoms; however, if the heat is of low intensity at first and gradually increased, much relief can often be obtained. However, let us not delude ourselves that we can *cure* arthritis by the use of diathermy. It is, nevertheless, a useful adjunct to arthritis therapy.

Fibrositis:—Diathermy is an excellent method of relieving the pain and congestion associated with inflammation of the white fibrous connective tissue anywhere in the body.

Pelvic Inflammations:—I still use diathermy in these conditions much to the apparent gratification of the patients. It seemed to give much relief before the advent of the sulfa drugs and penicillin, and I believe its use in conjunction with these drugs is quite justified. I have given 943 diathermy treatments for pelvic inflammation alone.

Respiratory Diseases:—Diathermy treatment is excellent for the relief of the pain of pleurisy, allowing deeper breathing. This factor often helps relieve the cyanosis of severe pneumonia. There is no evidence that diathermy affects the pneumonic process specifically. In bronchitis, it may reduce the viscosity of the secretions, thus facilitating expectoration. In this way I have often had it relieve severe asthmatic attacks.

Inflammations of the Peripheral Nerves:—In neuritis, radiculitis and neuralgia medical diathermy is a welcome adjunct to general treatment.

Sinusitis:—The best application is to the frontal and maxillary sinuses, but if there is not adequate drainage the pain may be increased by the congestion.

Backache:—The causes of backache are legion, but most of them yield nicely to diathermy treatment. Naturally symptoms due to a ruptured intervertebral disk, tumor, etc., will not be relieved.

Fractures:—It is thought that the increased circulation resulting from diathermy treatments will speed up calcification and healing in fracture of any bone in the body.

Fever Therapy:—If proper precautions are taken not to allow the sweat to evaporate, the body temperature may be raised by the use of diathermy to almost any desired level. This type of therapy found wide use before the advent of the newer drugs in the treatment of acute and chronic gonorrhea, curing 90 per cent of the acute cases and 60 to 80 per cent of the gonorrhreal arthritides. Syphilis has been treated successfully with this therapy combined with arsenotherapy.

I consider a diathermy machine almost indispensable in a modern physician's office. It is a little expensive, but it readily pays for itself in satisfied patients. So far I have given 3193 inductotherm treatments in my office. One may ask how a busy practitioner can find time to use the machine; but one can almost invariably find other things to do while a treatment is in progress. The patient must be kept under the observation of the physician or an assistant to avoid the possibility of a burn.

ENGLISH BOY CHEMIST FOUNDED COAL TAR INDUSTRY

Herman Goodman, New York, in Medical Times, April

Perkin, the wonder boy chemist of England and founder of the modern coal tar industry, on holiday in his father's kitchen, attempting to follow his professor's direction to prepare quinine, learned that Hofmann was not infallible. Did Perkin discard the unexpected mass resulting from the experiment to uncover a crystal? No. Did Perkin stop with this laboratory curiosity? No. He convinced his father and brother that they should enter business—to prepare artificial color for the dyers of cloth. Perkin designed the equipment. He created the new chemicals required by the new equipment. He taught the dyers how to apply the new fast color dyes. The English van dyers did not buy his new colors. They waited. Not until competition from continental fabrics, dyed with Perkin's dyes, forced their hand, did the English accept the dyes created by the schoolboy, so young that a guardian had to be appointed before the Crown would allow him a patent.

It is possible to name the Perkin invention as the cause of World War dreams of domination by the Germans, purchasers of the patent. How easily could the horror of poison gas and high explosives be traced to the kitchen experiment of 1856, by a boy not 15 years of age!

It is not impossible to trace the wonder chemistry of Paul Ehrlich; his dye experiments on white blood cells; the clue to the serological reaction of Wassermann; the preparation of salvarsan and its modifications to the experiment of Perkin.

TREATING HERPES ZOSTER BY INJECTIONS OF PATIENT'S OWN BLOOD

(J. Jaworski, in Proc. Royal Soc. of Med. (Lond.), Mar.)

This clinician takes 10 c.c. of blood from a cubital vein and injects 5 c.c. under the lesions themselves in several insertions; the other 5 c.c. under the skin near the corresponding spinal ganglion. In most cases one treatment only was given; in others the injections were repeated once or twice with a day's interval. Dr. Jaworski said he had treated 331 cases of zoster by this method with symptomatic relief and early resolution of the lesions.

No drugs were administered during the treatment.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

PUNISHMENT BY INCINERATION

THE PRESS of North Carolina reports that within the last few weeks in that state seven or eight men have been burned to death while locked up in local prisons.

In Halifax County four Negroes who had been arrested and jailed in a village police station were found dead at an early hour of the morning. A mattress in the cell was still burning. The cell was filled with smoke, and the Negroes were thought to have died of suffocation. I believe that two of them had recently been discharged from the United States Army in which they had fought in defense of our country during the Second World War. The Negroes were arrested and incarcerated for drunkenness.

At about the same time one, or probably two, white men were reported to have lost their lives in circumstances much the same in another county in the eastern portion of North Carolina.

And still more recently the newspapers have told of the deaths of two white men so young that they were still boys in a mountain county of the state. They had been called to the county by the death of their brother. Almost immediately after their brother's burial, I believe, they were arrested and placed in a jail cell. A fire occurred within the cell; they perished. They had been jailed because of changes in their conduct caused by the whiskey they drank.

Those newspapers and uplifters and legislators and Governors of the State of North Carolina who brought about such a marvelous improvement in the functioning of the state hospitals as to deprive most of them of medical superintendents and of assistant physicians and of nurses should now, during the rest from their high psychiatric endeavors, address themselves to a consideration of those places provided by law in the villages and in the small towns of the state for those citizens who so digress in conduct as to make necessary their apprehension and their detention by incarceration in some structure that serves the legal purpose of a jail. I infer that the four Negroes who perished from suffocation in the police station of Scotland Neck were the only occupants of the building from the time they were inducted into it at midnight until their lifeless bodies were looked upon early the next morning by the Mayor, or some other early riser of the community. The

smoke that unpleasantly stimulated his olfactory nerves brought his inquiring steps to the cell in which a mattress had been unwittingly ignited by one of the intoxicated unfortunates.

I believe that no State Hospital in North Carolina has been charged during any investigation with having burned a patient to death, either through malice or carelessness.

One cannot keep from wondering why the State of North Carolina does not see to it that the citizen, sober or drunk, is not locked up in a so-called jail of such structure as to jeopardize the imprisoned person's life. And prisoners should not be left alone even in a fire-proof building all night long, clear out of calling distance of all other mortals. Those who are deprived of their personal liberty by being jailed should be kept under the visual and auditory observation of those who have assumed the responsibility for incarcerating them.

And every person who is arrested and locked up even for drunkenness should be examined by a physician at the beginning of the incarceration. Not infrequently the diagnostic judgment of the arresting officer is not sound. The citizen who is thought to be manifesting symptoms of alcoholic intoxication is sometimes intoxicated on some other substance. And occasionally nephritis, intracranial tumor or some other pathologic disorder of the physical structure disturbs the mind and disorders the gait. In accompanying to his room a patient who had been brought to me from a jail, in which he had been placed on account of what was thought to be alcoholic intoxication, I observed that generally the toe of his left shoe did not clear the floor as we walked down the corridor. In consequence of the examination of him on the next day, I felt assured that an intracranial growth was disturbing both his body and his mind. The neurosurgeon's operative skill could not save nor much prolong the patient's life. Malignant cells had too widely diffused themselves throughout his brain.

Imprisonment of any person who is obviously poisoned, without a medical examination, constitutes a reflection both on medicine and on the local civic authority. Legal detention of a citizen in a combustible building, without an alert and responsible guardian of the citizen's safety, constitutes a crime.

What has the Division of the Government of North Carolina that exercises suzerainty over calaboes, the police stations, jails and the state's prisons to say about the recent tragedies in Halifax, in Columbus, and in Madison counties? And I cannot keep from wondering whether those unfortunates had become intoxicated on blockade liquor or on that sold by the United States Government and the Government of the State of North Carolina.

OPHTHALMOLOGY

CLARENCE B. FOSTER, M.D., *Editor*, Charlotte, N. C.

THE SCREEN TEST

THE SCREEN or cover test is the simplest, most practical test for measuring the relative position of the eyes that has been conceived. This procedure is described in Duane's translation of Fuch's famous text book. White has for years demonstrated its practical usefulness.

Various types of equipment have been made to achieve the same end. Some have the advantage of combining several procedures in the primary (straight ahead) position, without removing a fixed appliance from before the patient's eyes. None have materially increased the accuracy, or the facility with which the basic test can be accomplished. The fault of prism measurement in oblique position of gaze appears to be corrected in the tropophorometer of Quereau-Putnam — the fundamental technique of the test remaining the same.

Much time is spent in learning to interpret the subjective results of examinations on phorometer and phoropter. Later, in seeking understanding of problems in projection and correspondence, recourse must be had to the basic laws as demonstrated in the cover test.

The screen test may be done anywhere at any time, by simply covering in alternation each eye while fixation is maintained upon a certain point. The examiner should be seated or standing, in relation to the patient, somewhat in front of the patient, and a little to one side of the line of gaze. Various sizes of cards are used, the larger ones up to 5 x 8 inches being preferred. Various types of covers with handles are manufactured. If necessary the examiner's hand can be used.

The test may be used in two ways, subjective and objective. The first, sometimes called the parallax test, is accomplished by moving the cover from eye to eye, and asking the patient to observe the apparent movement of the point of fixation. The fusion is broken, and an effective diplopia produced—the motion of the fixation point seeming to be in the same direction as the uncovered eye moves to fix when its fellow is covered. A prism, base in the direction of movement, is held before one eye with the free hand while the other hand continues the alternation of cover from eye to eye. The strength of the prism is then increased until all observed motion of the fixation point is abolished. This strength of prism is the subjective measurement of the deviation from orthophoria.

For example, with an outward deviation under cover, each eye moves inward (nasally) to fix when the cover is transferred to its fellow, and the point of fixation seems to move to the left when viewed

through the right eye, and to the right when viewed from the left (crossed diplopia). The measuring prism is placed base in (nasally) before the eye of the two that is chosen.

A modification of the subjective screen test is used with the Maddox rod (screen-Maddox test).

The chief use of a subjective procedure as outlined above is to obtain a measurement to compare with some objective reading, if the comparison is not reasonable, say an exophoric deviation subjectively, and an esophoria objectively, a presumptive diagnosis of abnormal projection and correspondence is made.

The objective method is the one of better application of the screen test. There are so many parts of an eye examination in which reliance must be placed upon the patient's answer that it is well to cultivate every objective approach possible.

Fundamentally, the objective test depends directly upon accuracy of observation, which increases with practice. By constantly striving for perfection, a high degree of skill can be achieved.

Following are the purposes for which this test is used:

1. The measurement of a phoria in the primary position of gaze, and in the six cardinal positions (left, right, and four corners).
2. The differentiation of a phoria and a tropia.
3. The differentiation of a phoria, and an apparent deviation due to the presence of an appreciable amount of the angle Kappa.
4. The measurement of concomitant strabismus.
5. The measurement of a paralytic strabismus.
6. Comparison with the subjective test as mentioned.

The procedure is as follows:

1. To note the movement of each eye in fixing when the cover is moved from it to its fellow.
2. To hold a prism, base in the direction the eye takes to fixate, before that eye.
3. To stop that motion by increasing the strength of the prism.
4. To obtain an opposite to the original motion, by increasing the prism strength two to five diopters.
5. To take as a reading, of the deviation, that strength of prism lying halfway between that used at the last sign of the original motion and the first sign of the opposite motion. This is called finding the neutral point, and is based upon the principle used in determining the titration end point in chemistry, in finding the weight of an object tested on a balance, and in the reading of a static retinoscopy. For example, if the right eye goes up under cover and moves downward to fix when the cover is passed to the left eye, and if a prism of four diopters base down before right eye shows a slight residual down motion and one of six diopters

ters shows a slight upward motion, the measurement of the right hyperphoria is five prism diopters.

A point might be raised here as to the differentiation of a phoria and a tropia. For technical purposes, it makes no difference which one is measuring, except in the case of a paralytic strabismus. In the latter type of tropia the primary and secondary deviations will be unequal.

As to the differentiation itself the following points will readily lead to the correct diagnosis:

1. If the deviating eye of a tropia be simply covered and uncovered, without crossing over to cover the other eye, no motion can be seen in either eye.

2. If the fixing eye of a tropia be covered and uncovered without crossing over to cover the other eye, both eyes move.

3. So, in a tropia, whereas motion is observed in alternately covering one eye and the other, exactly as is seen in a phoria—the procedure of covering and uncovering one eye at a time produces no motion of either eye in one instance, and motion of both eyes in the other instance.

4. Such a phenomenon is not to be observed in a phoria. There, such a motion as is seen by covering and uncovering one eye at a time is confined to that eye alone.

It is not within the scope of an article of this length to discuss all phases and applications of the screen test. If it has served to draw attention anew to the simplicity, ease of application, and practicability of this test, its purpose will have been accomplished. For further information the reader is referred to Duane's Translation of Fuch's Text Book, sixth edition, and to White's excellent articles in the *American Journal of Ophthalmology* 24:156-160; 27:977-986.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

ADVICE TO EVERY PHYSICIAN REGARDING VETERANS' HEALTH RECORDS

FOR YOUR convenience, and for the protection of the veterans in the coming years, have every World War II veteran who comes to see you sit down and write a full description of his ailments and sign it in his own handwriting, then file this, so that you or your successor will have it available. We doctors cannot live forever! (And don't want to!) Many times this statement will show whether an apparently minor complaint is major or minor.

This is one of the least things that we can do for these veterans. Twenty or thirty years hence, when you and I are dust, these files written in these boys' handwriting and signed by them will

be valuable to the veteran and to the government. They will effectively support rightful claims, and they will be a great bar against fraudulent claims.

Most doctors who served in the Medical Reserve Corps in World War I have had many requests, years afterward, for reports on some illness of a soldier or nurse. Few indeed were the instances in which such data could be found in records are brought up from memory. It would be well to have this record made by each veteran include names and dates of each illness or wound while in service, and, if possible, the name and address of the medical officer and/or nurse who had ministered to him.

THERAPEUTIC MEASURES IN RHEUMATIC FEVER

THIS ARTICLE¹ is based on an analysis of various therapeutic measures in 150 cases of acute rheumatic fever in young men. The therapies employed comprised: Sodium salicylate (4.0 to 6.7 Gm. daily) and sodium bicarbonate (4.0 to 6.7 Gm. daily), 33 cases; sodium salicylate (4.0 to 6.7 Gm. daily) and ascorbic acid (200 mg. daily), 32 cases; sodium bicarbonate alone (4.0 Gm. daily), 10 cases; sulfathiazole (6 Gm. daily), 15 cases; penicillin (50,000 units daily), 5 cases; and calcium double salt of benzoic acid and succinic acid benzyl ester (4.0 to 5.3 Gm. daily) and ascorbic acid (200 mg. daily), 55 cases.

Sulfathiazole, penicillin and sodium bicarbonate alone had no demonstrable therapeutic effect. The striking difference evident in the two groups of cases receiving salicylate was the slight degree of toxicity in the patients receiving ascorbic acid in place of sodium bicarbonate.

Comparison was made between the 65 salicylate-treated cases and the 55 cases receiving the succinate compound. The average age and the severity of the disease in the two groups were identical. The cases receiving the succinate compound and ascorbic acid responded much more favorably than did those receiving salicylate. The duration of acute symptoms was greatly shortened. Signs of carditis developed in 69 per cent of the salicylate-treated cases compared with 19 per cent of the succinate-treated cases. Relapses of rheumatic activity occurred in seven of the salicylate-treated cases, whereas there were no relapses in the succinate-treated cases. *

Drug toxicity was noted in 19 per cent of the salicylate-treated cases; in only one case (2%) of the cases receiving the succinate compound. In this case slight mental confusion and a flush developed; drug reduction from 8.0 Gm. daily to 4.0 Gm. brought prompt subsidence of symptoms.

Calcium and ascorbic acid add to the usefulness of succinic dehydrogenase, and the administration

¹ Richard Culmer & Muriel Szucs, Brooklyn, in *New England Jl. of Medicine*, Nov. 29th.

of ascorbic acid as well as the calcium salt of the succinate acid compound studied appear to be indicated.

This is a highly encouraging report, appearing in a journal of the highest character. All doctors to whom this news comes are obligated to give their patients with acute rheumatic fever the benefits of a trial of the method which proved so superior in the series of cases here reported.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

AMINO ACIDS MEET MANY INDICATIONS

WATER, salt and sugar have been gradually made available to our patients by routes other than by mouth. Now protein food is thus available, and next after water in importance as a food is protein food.

At the recent meeting of the Tri-State Medical Association, Dr. Charles Stanley White presented a paper on this important subject, and I hope to see it soon in this journal. Another article presents this subject from a somewhat different angle.

We all will do well to keep in our offices and in our bags the preparations discussed by Hopps,¹ and to make use of them freely as occasion demands.

Over 10 years ago, Rose prophesied that amino acid preparations would be developed which could be administered parenterally, sufficient to supply adequate protein metabolism. Today such preparations are available and provide effective means for treating certain types of malnutrition. In our enthusiasm for vitamins, and for so-called sub-clinical deficiencies, the importance of protein deficiency has been overlooked.

Hypoproteinemia is an important cause of delayed wound healing and wound dehiscence. The liver's susceptibility to injury by such toxic substances as chloroform and arsphenamine is increased by protein depletion: feeding of protein exerts a protective action against such injury. That starvation results from protein deficiency even when adequate carbohydrates, fats, vitamins and minerals are taken has been well proved. Cannon and his coworkers have shown that the synthesis of antibody globulin depends upon an adequate supply of protein and that in conditions of protein depletion, the body is robbed of one of its most important defense mechanisms against infectious disease—the ability to develop immunity.

Many patients who are suffering from protein deficiency, or in whom this condition is impending, cannot take adequate amounts of protein by mouth.

1. H. C. Hopps, Oklahoma City, in *Jl. Okla. State Med. Assn.*, Nov.

and it is under these conditions that the use of amino acids, as a nutritive "protein" substance, should be considered specific.

There may be a mechanical or functional barrier in the gastrointestinal tract—a stricture, tumor mass, paralytic ileus or perhaps a portion of stomach or intestine, recently subjected to some surgical procedure and which must be protected from trauma.

Digestive disturbances may prevent assimilation of ingested protein as in severe diarrheas, ulcerative colitis, or pancreatic deficiency. Adequate oral intake of protein may be prevented by lack of appetite.

Increase in protein requirements may result from abnormal loss of protein as in chronic proteinuria, draining fistulae, or large exuding wounds, or from increased metabolism occasioned by fever. Parenteral therapy to relieve protein deficiency is of special importance in preparation for operation, and in helping to maintain proper nutritional state during the postoperative period. No consideration of fluid or electrolyte loss and their restitution is sufficient unless the plasma protein is considered.

Any condition in which hypoproteinemia exists or is imminent and in which adequate protein cannot be taken by mouth or assimilated in the usual manner is positive indication for amino acid therapy. Nephrosis is one of these conditions.

A nutritionally complete protein may be broken down, through hydrolysis, to its amino-acid components. Casein, because of its high nutritional quality, its availability and relatively low cost, has been most used to furnish amino-acid mixtures. Many new products of similar nature are developing, using other native proteins such as beef plasma as their source.

Amino-acid mixtures, if properly prepared, are not antigenic and no allergic reactions follow their injection.

If amino acids are properly administered, with special regard to the concentration and rate of administration if given parenterally, significant reactions are not encountered. There is no evidence of harmful piling up of this substance or injury to tissues following proper parenteral administration.

Nausea, flushing, a sensation of heat and perhaps mild muscular pains may accompany the too rapid administration of amino acids intravenously. These symptoms are transient and are not serious. Severe toxic reactions may occur if these mixtures are given parenterally to individuals with severe hepatic damage, e.g., diffuse toxic hepatitis (acute yellow atrophy).

Amino-acid mixtures may be administered intravenously, subacutely, per rectum, by mouth, stomach tube, duodenal tube, or enterostomy. In our eagerness to give substances directly into the blood

stream, we often fail to use a more convenient and more practical portal of administration. It has been shown that amino acids put into the duodenum are rapidly absorbed at this site and in many instances, even in severe diarrheas, administration by duodenal tube may be the method of choice.

If it becomes necessary to give amino acids parenterally to a person unable to eat food, many additional calories in the form of glucose must be supplied in order that the administered amino acids be used for protein synthesis and not burned for energy. For this reason the solution of choice for intravenous injection is 5% amino acids in a solution of 5% glucose.

DENTISTRY

J. H. GUNN, D.D.S., *Editor*, Charlotte, N. C.

THE ORAL MANIFESTATION OF IRON DEFICIENCY

THE RECOGNITION that lesions of the buccal tissues may be due to vitamin B complex deficiencies has led to the assumption by many that all such lesions are manifestations of vitamin deficiencies. It has been claimed that changes in the lingual papillae are due to niacin deficiency; that the glossitis in other conditions is probably due to chronic niacin deficiency; that fissures at the angles of the mouth are pathognomonic of riboflavin deficiency, although it has been demonstrated that such lesions may heal following the administration of niacin, pyridoxine or pantothenic acid, and that they may be resistant to therapy with all known B factors.

Darby¹ cites these facts and reports results of treating cases showing these symptoms with iron after failure with vitamins.

A dramatic case is that of a white, 4-gravida, 38, seen first April 1st, 1940, with a "hurting and burning of the stomach and chest after meals" and tiredness, for the past five years; mouth constantly sore, no diarrhea, constipated past three years. A diagnosis of "subclinical pellagra" and nodular, nontoxic goiter was made; treated by dietary instruction, plus brewers' yeast, cod liver oil and niacin 50 mg. three times a day. The teeth were extracted. Stopped coming to the clinic in October, 1940.

Second admission Nov. 11th, 1944, with complaint of pruritus vulvae of two years' duration. Other symptoms suggested diabetes; frequent menses, occasional hot flashes, tongue burned and her whole mouth was sore at intervals. She had worn dental plates for four years. One month previously she had had diarrhea for a 15-day period.

Treated with phenobarbital 0.03 Gm. t.i.d., and B complex syrup* 4 c.c. t.i.d. Nov. 18th less nervous.

1. Wm. J. Darby, Nashville, in *Jl. A. M. A.*, Mar. 30th.

sore mouth persisted; tongue slick along margins and tip, denuded areas, some central fissuring. Pruritus vulvae persisted. B complex syrup as before, and sodium perborate mouth wash added—no improvement by Jan. 10th, 1945.

Radioactive-iron absorption test Dec. 6th had revealed an uptake of 97% of a test dose of 7 mg.** On Jan. 10th, 1945, 5 gr. ferrous sulfate t.i.d. in addition to the B complex syrup. One week later the patient volunteered the information "My mouth is well." Fissure and atrophic margin remained. By January 31st, complete relief for the first time from the pruritus vulvae, and she was much less nervous. The tongue appeared to be normal on examination.

The administration of iron was continued, and on May 9th the hemoglobin had reached 13.0 Gm. and the packed cell volume 47%. All therapy was discontinued on June 6th, and the patient has continued well to date (5 months).

Six cases were observed which illustrate that angular fissures and superficial glossitis may accompany chronic iron-deficiency anemia of mild degree. Certain of these cases responded to iron therapy alone; others responded to iron administration after they had failed to yield to prolonged intensive treatment with various B vitamin preparations.

Iron deficiency alone is a common cause of such oral lesions whether or not the lesions are accompanied by the dysphagia of the Plummer-Vinson syndrome—dysphagia with glossitis, hypochromic anemia, enlarged spleen, atrophy in mouth, pharynx and upper esophagus.

Iron deficiency should be considered in the interpretation of the significance of such oral changes as are recorded in nutrition surveys.

It is a real pleasure to find a favorable word for iron as a remedy; particularly since the preparation used and found not wanting is the plain, old, cheap ferrous sulphate of our grandfathers in medicine.

*25 mg. of niacin, 1 mg. of riboflavin and 3 mg. of thiamine to 4 c.c.

**The absorption by an adult of more than 5% of a test dose of radioactive iron is definite evidence of iron deficiency.

PRIVINE DEPENDENCE OF TWO YEARS' DURATION

(L. E. Putnam & R. P. Herwick, Washington, in *Jl. A. M. A.*, Mar. 16th)

A housewife, aged 35, in 1934 and 1937 had had some treatment for sinus trouble. In December, 1943, she had nasal congestion and tried several home remedies. She then saw a nose and throat specialist who gave her privine with remarkable relief for three or four hours each time, and she continued to use it every three to four hours for a total of an ounce weekly. Different nose drops gave poor relief so she reverted to the use of privine.

She continued to use privine until she was seen in October, 1945.

It was recommended that she discontinue privine completely. She was given a supply of ephedrine capsules, $\frac{3}{4}$ grain each, for use during the day; ephedrine with a barbiturate for use in the evening or at night. The patient was quite apprehensive about discontinuing the privine, since she had depended on it 23 months. However, she agreed to stop it and to use acetylsalicylic acid liberally if headache developed. On arising the following morning she took one capsule of ephedrine, that night one of ephedrine-barbiturate. The following day she entered a smoky room, her nose became congested and she took a second ephedrine capsule without benefit. She obtained relief by leaving the room. For the next four nights she took one of the ephedrine-barbiturate capsules h. s. She then discontinued all medication and until the present (three months later) has had to use none at all. The nasal mucous membrane at this time appears normal.

SURGERY

ABDOMINAL PUNCTURE AS A DIAGNOSTIC MEASURE

WE SHOULD make more frequent use of abdominal puncture as a means of arriving at a diagnosis; but few of us will be able to agree with Campbell¹ that the procedure is fool-proof.

This Denver doctor tells us:

There is no hesitation in inserting a needle into the peritoneal cavity in the presence of ascites; but the use of abdominal puncture for the diagnosis of acute abdominal conditions apparently seems too dangerous to have achieved any wide acceptance. Pediatricians have long administered fluid by the peritoneal route with impunity. If the needle punctures the bowel, no harm results, for a needle puncture will not leak. It has been shown that wounds of the bowel by shotgun missiles, which have entered from a sufficient distance to have achieved some "scatter," will heal without peritonitis and that operation in such cases is needless. We may conclude at the outset that abdominal puncture is not dangerous and that the main objection to its use should therefore be relinquished.

There are a number of diseases which present signs of acute surgical disease in the abdomen that are better not subject to laparotomy. Pneumococcus peritonitis is one of these. Gonococcus peritonitis is certainly not improved by operation. Streptococcus peritonitis is often made much worse by laparotomy, although the advent of the sulfonamides alleviates the situation. Schaufler presented two cases, each of which may illustrate the aid to be obtained by abdominal puncture. One was a case of gonococcus peritonitis operated upon for appendicitis; the other was a patient who had formerly had gonococcus vaginitis, and in whom an acutely inflamed appendix was overlooked. This is exactly the type of problem which abdominal puncture solves admirably.

¹. H. E. Campbell, Denver, in *Rocky Mountain Med. Jl.*, April.

Of gonococcus peritonitis Wharton writes: If a diagnosis can be made with certainty, operation should not be performed. In this situation abdominal puncture provides positive evidence. It yields the gonococcus with great reliability if that organism is the cause of the signs. If the patient has a positive vaginal smear but the abdominal puncture yields only pus cells, or pus cells with organisms of multiple types, operation is indicated and valuable time is not wasted.

Hill has written of another use of abdominal puncture, in the diagnosis of strangulated bowel. He states, on laboratory studies, that differentiation between venous and arterial block can be made.

Local anesthesia may be used, but total discomfort is less* if the needle is carried directly in without anesthesia, and subsequent manipulations thus avoided. Trocars and capillary tubes have been abandoned in favor of needle and syringe, the simplest possible means. A 22-gauge, two- or three-inch, short bevel lumbar puncture needle is inserted with stylet in place to prevent plugging of the lumen with fat. Because the resistance to the needle is often rather marked in the midline, and because we have purposely used a rather dull needle so as to obtain a "snap" at each layer, we have endeavored to enter just lateral to the medial edge of the rectus. This avoids the deep epigastric vessels, and yields a series of "snaps"—at the anterior sheath, at the posterior sheath and, if the individual is fat, the peritoneum gives a less noticeable snap at a greater depth. The bladder should be empty, not because of fear of injury to the bladder, but because it is the peritoneal cavity that is sought. The needle may be flattened against the skin to make the point lie up against the parietal peritoneum. The stylet is removed, a 10 c.c. syringe attached and gentle suction applied. The needle may be moved around or rotated in an attempt to engage a collection of fluid. It is not the purpose to penetrate into the interior spaces of the abdomen. If exudate is present it will lie in a thin film between the bowels and the parietal peritoneum.

One must not expect to get a syringe-full of pus. Often enough no fluid rises in the syringe at all. As the needle is removed while one maintains suction, a mere drop of fluid may appear in the syringe. If this is blown on a slide, or if the loop is used to pick up a small mass of fibrin on the interior of the syringe barrel, a smear will reveal hundreds of pus cells and many of the offending organisms. To conclude that the puncture is negative without examining even the interior of the hub of the needle is to miss the opportunity for an accurate diagnosis.

*The editor questions this statement.

The doctor makes out a good case for more frequently puncturing the abdomen; but few of us would rest easy after sticking a needle through the bowel wall. Use this diagnostic and therapeutic measure, but be sure you do not penetrate any structure other than the abdominal parietes.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

A REVIEW OF 401 CASES OF EARLY WALKING AFTER OPERATION

EVERYBODY knows that patients are kept in hospital too long, to say nothing of a great percentage being sent to hospital for the convenience of the doctor, rather than the good of the patient. Canavarro¹ tells us one way of providing more hospital bed-days and saving more lives.

This paper is a discussion of 401 cases of early ambulation at Presbyterian Hospital between September, 1944, and July, 1945. The general method of handling these cases is:

As soon as the patient has fully recovered from the anesthesia, he is put up in a high Gatch position (sitting up in bed) and encouraged to move about in bed and to take deep breaths. The next morning an abdominal binder is applied and the patient is allowed to stand beside the bed, remaining up for 15 minutes. That afternoon he is again allowed up and assisted in walking about the bed. The second day he is assisted to the bathroom and thereafter is allowed up and around as desired.

Contraindications: Prolonged preoperative bed rest, cachexia, cardiac insufficiency, recent coronary occlusion, shock, severe anemia, hemorrhage or patient's fear of hemorrhage and the presence or suspected presence of thrombi or emboli make up the first group. In the second group are suppurative conditions such as peritonitis, pancreatitis and cholangitis; in the third, insecure anastomosis, copious tamponade and difficult hernial repairs in which the tissues available are of poor quality. Simple drainage is not a contraindication, nor is the presence of a Miller-Abbott tube. The decision to allow the patient up is made by the surgeon in charge.

Of 401 cases of early ambulation 77.6 per cent were closed with silk, 10.2 per cent with gut and 12.2 per cent with cotton or other suture material. No type of abdominal incision has been favored. Fifty-eight per cent were walking by the end of the second, 75 per cent by the end of the third, the remainder by the fifth p.o. day. The average length of stay in the hospital after operation was 11.3 days.

1. Kim Canavarro, New York, in *Bul. N. Y. Academ. Med.*, May.

A similar group of cases—i.e., made up of operations on the gallbladder and common duct, herniae; partial gastrectomy; thyroideectomy; radical neck and breast; volvulus of sigmoid; hysterectomy; pancreatectomy; carcinoma of large bowel—not ambulated were taken from the surgical files of 1943 for comparison.

Among the 401 cases of early ambulation there were 32 cases with some postoperative complication, whereas there were 74 such cases in the group not ambulated early. There is a significant reduction in the incidence of postoperative complications among the early ambulation cases. The occurrences of bronchopneumonia were reduced by one-half, atelectasis by one-third phlebothrombosis and pulmonary infarct by one-half. There were no cases of serious distention, ileus; or deaths in this group. Urinary complications were minimal.

There was no delay in wound healing because of early ambulation and no apparent increase in the incidence of incisional herniae to date. (Six months' follow-up on one-half the patients.)

It is believed that the first or second postoperative day is the optimum time to ambulate patients, since most of the complications occur in the early postoperative period.

The return to normal of these patients has been hastened, with a great saving, financial and in hospital hours, to patient, doctor and nurse.

PEDIATRICS

E. L. KENDIG, M.D., *Editor*, Richmond, Va.

PENICILLIN A SPECIFIC IN ACUTE INFECTIOUS EPIDEMIC DIARRHEAS OF CHILDREN AND THE NEWBORN?

By ACUTE INFECTIOUS epidemic diarrheas of children and the newborn, Garcia¹ means those which occur usually in children and are characterized by a sudden abrupt onset with alarming symptoms of shock, with chills and fever from the first few hours to two days. The onset is followed in about two or three hours by frequent liquid stools with or without blood and tenesmus. The number of stools varies from 10 to 140 in 24 hours. Vomiting is usual. The disease occurs usually in epidemics and usually in children under five years of age, although it may affect adults also in epidemic form—mild in adults. The mortality rate runs during epidemics from five per cent in some years to 25 per cent in other years.

In the highly toxic cases, where death appeared inevitable either because the sulfonamides had failed or because medical care had been sought too late, Garcia first used penicillin in desperation, although no reports had been available to him of its previous use in this disease. His results in

1. J. A. Garcia, Corpus Christi, Tex., in *Med. Rec.*, April.

these seemingly hopeless cases have been astounding. There was improvement in from four to 24 hours and from being practically moribund the child returned to the normal state. The child appeared perfectly normal and only the evidences of dehydration were in evidence for a few more days. No signs of toxicity remained after the first four to 24 hours.

If the diarrhea was severely toxic or if the sulfonamides had failed to bring about improvement within 24 hours, penicillin, a minimum of 100,000 units, given every 24 hours, usually in one dose by dissolving in 5 c.c. of water or saline and injecting into the gluteal muscles, gave decidedly better results than doses of 15,000 units every three hours.

Feedings were not stopped by mouth nor altered. Fluids were given parenterally when indicated.

Sixty cases in which treatment with sulfadiazine, paregoric and kaopectate had failed were promptly cured with penicillin in from four to 24 hours. Twenty-five additional cases were treated primarily with penicillin because of the severity of the symptoms when first seen or because the cases were deemed hopeless. The result in each case was recovery in from four to 24 hours.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

GRANULOMA INGUINALE

GRANULOMA INGUINALE is practically confined to the Negro race and other dark-skinned people.

In none of the 200 cases reported by Allison¹ was granuloma inguinale found occurring alone. All victims had or formerly had at least one other venereal disease, exclusive of gonorrhea, and most of them had had two, three, and even four, venereal diseases.

After one is familiar with the disease, the clinical appearance is so characteristic that most of the cases can be diagnosed by inspection alone. The raised, velvety-red, granular, weeping, typically foul-smelling lesion which bleeds easily and has persisted for weeks, months or years readily tells its own story. A point to be remembered in differentiating granuloma inguinale from lymphopathia venereum (lymphogranuloma venereum) is that granuloma inguinale is primarily a disease of the skin, or very infrequently of modified mucous membranes. Lymphopathia venereum is a disease of lymph glands and lymph ducts, and it does not produce skin lesions; unless one would consider the tiny button on the surface of a draining sinus, or the absence of skin over a bubo that has necrosed and sloughed away. Many fail to appreciate the coexistence of the two diseases.

¹ G. C. Allison, Atlanta, in *Jl. Med. Assn., Ga.*, April.

Granuloma inguinale is a very chronic, infectious disease probably spread by cohabitation. Not all the factors involved in its epidemiology are known. It is frequently confused with other venereal diseases.

Diagnosis from smears or small fragments is simple. The State Board of Health will give reliable reports on smears submitted.

All drugs thus far reported as curative agents fail to completely eradicate the Donovan body; biopsies of apparently cured lesions frequently reveal the Donovan body in a quiescent phase in deeper tissues.

Extrication with a Davis-Bovie unit under general anesthesia accompanied by injections of antimony salts, offers the best method of treatment now known.

Here are lessons for all of us whose practices include Negroes.

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

PERNICIOUS VOMITING OF PREGNANCY

EVEN with the halving of the number of children per family, all of us have still to contend with vomiting of pregnancy. A clear-cut program for its management is outlined from an article by Faber.¹

It is to be noted that there is no suggestion that any estrogen be given.

Most authors classify the condition as a toxemia. In the majority of cases of pernicious vomiting, which occur in varying degrees of severity in a third of all pregnant women, the symptoms can be controlled by adherence to a rigid dietary regimen consisting of small, dry feedings at four-hour intervals, high in carbohydrate value. Vitamin supplements, particularly of the B group, are valuable since such a diet is usually deficient in vitamins. Fluids should be taken liberally between feedings; carbonated drinks are in many cases more readily tolerated than other fluids. Freedom from responsibilities and a rest period several times a day are advisable. Phenobarbital or a bromide are useful in sufficient amounts to effect re-laxation.

If vomiting persists in spite of this management with dehydration, hemoconcentration, and vitamin deficiency, there is pallor, dry skin, salivation, and rapid loss of weight, and as the condition progresses, in some cases a rising pulse rate and slight fever. Blood studies may show leukocytosis due to blood concentration, with low blood chlorides.

In cases of pernicious vomiting, jaundice, visual disturbances, and polyneuritis demand immediate

¹ J. E. Faber, Mayo Clinic, in *Med. Clin. N. Amer.*, 29:848, 1945.

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SOUTHERN MEDICINE & SURGERYJAMES M. NORTHINGTON, M.D., *Editor**Department Editors**Human Behavior*

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

YOU DON'T NEED TO LIVE NEXT DOOR
TO A HOSPITAL
DON'T SEND PATIENTS TO HOSPITAL
WHO CAN BE JUST AS WELL
SERVED OUTSIDE

A LOT of us doctors have talked much against the folly of putting patients into the hospital who had no need of such care, and the equally great folly of keeping them there at least twice as long as served any good purpose.

When the depression was at its deepest a great deal of surgery including reduction of fractures and fixation with plaster casts, was done in offices, and the patients sent to their homes. At that time perhaps the majority of the women who bore their children in hospital did not enter until in active labor; and a great many were returned to their homes by ambulance within 24 hours. Apparently no harm resulted to the patients from these sensible arrangements.

But since we are all rich and getting richer, and the population has been propagandized that no matter what your ailment you must go into a hospital for study, and then must stay in it an unconscionably long time for treatment.

There is much evidence that this is not working out well for the hospitals.

The following four paragraphs are from a letter sent by the Administrator to each Member of the Staff of a large hospital in North Carolina:

Who will pay the steadily rising cost of hospital service? This question was placed squarely before members of the New England Hospital Assembly in session in March in Boston, by Dr. Fred G. Carter, Past President of the American Hospital Association, and at present Superintendent of St. Luke's Hospital, Cleveland. The average hospital bill of today in Cleveland is 40 per cent higher than in 1940, Dr. Carter pointed out. At St. Luke's, for example, salary costs along in 1945 were about equal to the total costs of operation in 1940. A 40-hour week for hospital personnel would be a factor in further increased costs of hospital operation. "If the present trend continues for the next five years," warned Dr. Carter, "we may expect that the prewar bill of \$6 to \$7 will have advanced to \$12 to \$13 per day in 1950."

If hospitals follow traditional evolutionary trends rather than totalitarian precepts in the future they must look to three main sources for payment for the services they render. These are: the patients themselves in decreasing numbers; governments, national, state, and local and Blue Cross plans. "The ranks of the regular pay patients are thinning rapidly," he explained. "It should be obvious that hospitals whether they like it or not, are finding increasingly large proportions of their

bills being handled on the basis of group contracts.

"Voluntary insurance plans including those of insurance companies, as well as those of Blue Cross groups, probably are paying the hospital bills of from 30,000,000 to 40,000,000 of our people currently and this group will continue to grow at the expense of the 'regular pay group.' If these plans are to serve and expand as we hope they will, they must expect to pay hospitals their complete costs for the care of their clients.

"With the absorption of private philanthropy by governments through higher taxes, it seems only fair that government should assume the burden which private philanthropy has carried for generations in the hospital field. This means that governments must accept the responsibility for the care of the indigent and the medically indigent at rates representing nothing less than complete costs. It does not mean that governments must accept a responsibility of this nature for everybody. If it is admitted that the medical needs of the vast majority of our people are well taken care of and that our concern should be for the low-income groups, then legislation should focus on these groups and not on the entire population."*

Another letter from the same official tells us that Medical College of Virginia Hospitals have 165 beds out of service because of lack of nurses; that of the first 36,000 nurses discharged from the army only 6,000 indicated that they planned to return to civilian nursing; that less than 10 per cent of the Nursing Schools throughout this State and the country as a whole were able to take in a spring class of students, and most of the classes were less than 50 per cent of normal number. This letter goes on to say that in January this hospital wrote 7200 girl high school (1945) graduates, pointing out the advantages and opportunities of nursing, enclosing a return prepaid postal card on which could be checked their high school major and average and whether or not they would be interested in more information about nursing; that 155 inquiry cards were returned; and that the number of applications from the 155 inquiries was exactly zero.

All this must be very disconcerting. If the hospitals are soon to come to the place where they must charge \$12 to \$13 per day per patient in order to be self-sustaining, it is highly necessary that some very careful study be made with a view to finding out which of these services can be utilized with more discretion and more economy. We have had entirely too much talk about the need for "complete diagnostic study." Entirely too many patients are sent into the hospital for the convenience of the doctor rather than for the good of the patient. Not a few are sent in in order to impress the patient and the family that the condition is much graver than it really is.

*From *The Modern Hospital*, April.

If the hospitals must have \$12 or \$13 per day from patients who pay the hospitals directly, then they must have the same amount from those insured under a Blue Cross or other Insurance plan; and those insured must pay in enough money to purchase the use of beds at this rate, plus overhead charges and plus the much greater use of hospitals and under much less provocation than would make the same person apply for hospital care when he was uninsured.

We have heard a great deal about the lack of hospitals in the State of North Carolina. Some of these propagandists would have us believe that if you don't have "a modern hospital" within 25 miles of your home your health and life is placed in great jeopardy. Let us look at the record. The latest report covering a whole year's death rate by counties gives the rate for the *entire State* as 7.5 per 1,000. The rate for the counties in which there is *no hospital* for that same year was 7.12 per 1,000. This does not mean that the people in those counties not having hospitals did not have hospital care. It means that they had hospital care when they needed it. It is to be borne in mind that, all other things being equal, the death rate should be higher in these rural counties, for the tendency is for the young folks to go to the cities, and a good many return to the rural sections to spend their last days, and so the average age of those living in the rural counties is higher than for the urban—so the death rate should be higher!

DOCTOR JOHN SHELTON HORSLEY
DOCTOR FREDERIC MOIR HANES

In the past few weeks our section has lost two of its ablest doctors—one a surgeon, one a physician. And it may be noteworthy that the surgeon died of a surgical condition, the physician of a medical.

Dr. Horsley had made a name for himself in practice in New York and in Texas before he settled on Richmond, in his native State, for the long span of his life's work. His achievements, notably in blood-vessel and tumor surgery, brought him world-wide recognition and acclaim. In his latter years there came the tragedy of the death in an automobile accident of one of his surgeon sons, his namesake. This blow of fate he bore with the courage and fortitude that had characterized his life; yet who would dare say the father's life was not shortened thereby? The other surgeon son, Dr. Guy Winston Horsley, is left to continue his father's, his brother's, and his own high achievement.

Dr. Hanes, too, made a name for himself in many parts of the world. He was graduated from Harvard and Hopkins; he taught in New York Saint Louis and Richmond; he, with Dr. John Wesley Long, organized Base Hospital 65 for

World War I, and was first its chief of medical service, later its commanding officer. For the greater part of the existence of that institution he was professor of medicine in Duke University. Possessed of a keen mind which had been thoroughly trained, and of great energy and ambition, it was inevitable that he would be great as a teacher, and make large contributions to the development and diffusion of knowledge of the art and science of health care.

COFFEE, TEA AND THE COLAS

(V. H. Musick et al., Oklahoma City, in *Jl. Okla. State Med. Assn.*, April).

For centuries uncivilized peoples throughout different parts of the world have used extracts of plants containing the xanthine compounds—caffeine, theophylline and theobromine—as a beverage. Since plants containing these drugs possess neither a peculiar odor or taste, nor is their effect on the human mechanism startling, it is of interest that natives were able to select them with such accuracy. It may be that they noted the soothing carminative effect of the hot beverage or perhaps the brightening of the intellect, or relief from fatigue.

No civilization has ever existed wherein the complexities of that system could be tolerated by the people without stimulants and narcotics. The common beverages used in this country with their approximate amount of caffeine per unit or usual container are:

Coffee	1½-2 gr.
Pepsi Cola	1 1/5
Spur	7/8
Coca Cola	½
Tea	1/4-1/2
Sanka	5/8-1/4

For many years we have considered caffeine-containing beverages as harmless when taken in moderate quantities. Patients who drink from 18 to 25 cups of coffee a day may have headache and confusion, ringing in the ears, flashes of light, pounding of the heart, tremor; sleepless nights may result from the ingestion of caffeine-containing beverages late in the evening.

A group of patients who should avoid caffeine even in small quantities are those who have burning in the pit of the stomach and "indigestion" following a cup of coffee, tea or cola drink. Among these individuals are those who have previously experienced or who are suffering from peptic ulcer, or who persistently hypersecrete HCl as determined by fractional gastric analysis following various test meals. Normal patients secrete increased amounts of HCl when the gastric mucosa is stimulated with caffeine. In active duodenal and gastric ulcers there is a high prolonged secretory phase of gastric activity following stimulation with caffeine. In duodenal ulcer in remission, a prolonged high secretory response to the caffeine test meal persists for many months even though there is complete freedom from symptoms.

Caffeine, in excessive doses, may produce a variety of untoward effects principally as a result of stimulation of the higher nervous centers.

Caffeine, in small doses, stimulates gastric secretion in normal individuals.

In 5% of "normal persons and in those suffering from peptic ulcer (10% of the male adult population in the United States), caffeine produces an excessive prolonged gastric secretion of HCl."

Patients with active or latent peptic ulcer should not drink coffee, cola or other beverages which contain caffeine.

BOOKS

PREOPERATIVE AND POSTOPERATIVE TREATMENT, edited by LT. COL. ROBERT L. MASON, M.C., A.U.S., Cushing General Hospital, Farmington, Massachusetts; and HAROLD A. ZINTEL, M.D., Harrison Department of Surgical Research, University of Pennsylvania School of Medicine; Assistant Surgeon, Hospital of the University of Pennsylvania. Second Edition. 584 pages, with 157 illustrations. *W. B. Saunders Company*, Philadelphia and London. 1946. \$7.00.

The score of contributors have compiled the very best of directions for preparing the patient for surgical operation and for caring for him after operation. It is recognized and held firmly in view that the objective of surgery, as of medicine, is the restoration of normal function in the shortest possible time. Accurate distinction is made between emergency and elective operative procedures. General preparation, conditions affecting the risk, special means of reducing the risks in certain cases to the minimum, choice of anesthesia, water balance, wound care and physical measures in surgery are among the striking subjects discussed in Part I. In Part II there are set down best means of meeting the problems which may be anticipated or may arise in surgical procedures on the various anatomic regions. On the whole the book may be taken as a valuable exposition of care before and after surgical operation.

EVOLUTION OF PLASTIC SURGERY, by MAXWELL MALTZ, B.S., M.D., Sc.D., F.I.C.S., Director, Department of Plastic and Reconstructive Surgery, West Side Hospital and Dispensary; Honorary Professor of Surgery, Universities of Santo Domingo, Nicaragua, Honduras, San Salvador, Guatemala. *Froben Press*, 4 St. Luke's Place, New York 14. 1946. \$5.00.

A scholarly presentation of the subject which records its development over at least 2500 years, and which contains matters of interest for the medical historian and of instruction for the modern plastic surgeon.

CORNELL CONFERENCES ON THERAPY: Volume One. Edited by HARRY GOLD, M.D., Managing Editor; DAVID P. BARR, M.D., EUGENE F. DUBOIS, M.D., MCKENNA CATTELL, M.D., and CHARLES H. WHEELER, M.D. *The Macmillan Company*, 60 Fifth Avenue, New York. 1946. \$3.25.

The preface tells us that pharmacology is often concerned with impractical matters. This is an encouraging approach. It is said that it is rare for pharmacology and therapeutics to be woven into one design. A book based on such concepts must be of great practical usefulness.

Proofs of this practical usefulness are afforded by the inclusion of sections on the doctor's bag and its contents, use and abuse of bed rest, hypnotics and sedatives, pain, treatment of heart failure, the mercurial diuretics, intestinal infestations,

common diseases of the eye, poisoning, and the Rh factor in therapy.

All this is convincing that any doctor would do well to purchase Volume I and subscribe in advance for other volumes.

DISEASES OF THE ADRENALS, by LOUIS J. SOFFER, M.D., Adjunct Attending Physician, The Mount Sinai Hospital, New York City. 42 engravings and 2 colored plates. *Lea & Febiger*, 600 Washington Square, Philadelphia 6. 1946. \$5.50.

A great deal of nonsense and a certain amount of sense may be read in the general medical literature today on the diagnosis and treatment of diseases of the adrenals. This book will serve as a valuable and reliable guide in cases which are numerous and in which the various testimonies are quite confusing.

TREATMENT OF ARTHRITIS AND RHEUMATISM IN GENERAL PRACTICE: Particularly in Women, by BERNARD ASCHNER, M.D., Chief of the Out-Patient Department for Arthritis at the Stuyvesant Polyclinic, New York City. *Froben Press*, 4 St. Luke's Place, New York, 14. 1946. \$5.00.

The author tells us that here is a different approach to the problem, founded on a quarter-century of research, historical studies and clinical practice. Treatment as practiced by our Indians, by peoples of the Far East, by African tribes, by the Hindus and by the Greeks and Romans is outlined. Pare's success in this field is mentioned. A whole chapter is devoted to the present concept of arthritis. The author's therapy is divided into constitutional treatment and counterirritation.

There is discussion of arthritis of the various joints; of rheumatism of the nervous system, and of the organs of sense; of rheumatism and gout of the inner organs, and of drug therapy of arthritis.

THE VENOUS PULSE AND ITS GRAPHIC RECORDING, by FRANZ M. GROEDEL, M.D., Attending Cardiologist, Beth David Hospital. With 7 illustrations and 209 tracings on 114 figures. *Brooklyn Medical Press*, P. O. Box 99, Station H, New York 25. 1946. \$5.50.

The recording of the venous pulse is a much neglected diagnostic procedure, being much subordinated to a number of more dramatic methods. This monograph fairly sets forth the technic and interpretation of this valuable means of diagnosis.

MODERN TRENDS IN CHILD PSYCHIATRY: Editors, NOLAN D. C. LEWIS, M.D., and BERNARD L. PACELLA, M.D. *International Universities Press*, 227 West 13th Street, New York 11, N. Y. 1945. \$6.00.

One may gain some idea of the contents on learning that subjects discussed are anxiety in infants, maternal overprotection, primary conduct disturbances, ego psychology, personality diagnosis, male sex delinquency, psychoses in children, fan-

tasy, play analysis, combined psychotherapy with children and parents, group therapy with children and psychiatric social case work.

The reviewer is unable to follow the thread of all that is said. He would recommend that the book be read with an open mind.

COSMETICS AND DERMATITIS, by LOUIS SCHWARTZ, M.D., Medical Director, U. S. Public Health Service; Adjunct Professor in Dermatology, Georgetown University School of Medicine; and SAMUEL M. PECK, M.D., Medical Director (R), U. S. Public Health Service. *Paul B. Hoeber, Inc.*, 49 East 33rd St., New York 16. 1946. \$4.00.

We are told about possible injurious effects of occupational dermatitis, creams, dentifrices, deodorants, hair preparations, lip stick, perfume and powders, sun-tan preparations, cosmetic advertising—even about the beneficial effects of cosmetics. Manifestly it is well for women to look their best, provided this gain is not more than counterbalanced by loss. It may be well here to remind that true art is to conceal art; i.e., by imitating nature.

SHOCK TREATMENTS AND OTHER SOMATIC PROCEDURES IN PSYCHIATRY, by LOTHAR B. KALINOWSKY, M.D., Research Associate in Psychiatry, College of Physicians and Surgeons, Columbia University; and PAUL H. HOCH, M.D., Assistant Clinical Psychiatrist, New York State Psychiatric Institute and Hospital. Foreword by NOLAN D. C. LEWIS, M.D., Professor of Psychiatry, College of Physicians and Surgeons, Columbia University. *Gruen & Stratton*, 443 Fourth Ave., New York City. 1946. \$4.50.

All of us are interested in, and concerned about, shock treatments. Here is a fair evaluation.

ORAL AND PARENTERAL USE OF ALUMINUM PENICILLIN MIXTURES IN THE TREATMENT OF GONORRHEA
(S. W. Bohls, et al., in *Jl. Venereal Disease Information*, March)

The use of an aluminum penicillin preparation by injection with and without the addition of oral benzoic acid is discussed in the treatment of gonorrhea. In this preparation, the aluminum delays absorption and the benzoic acid inhibits renal excretion of the penicillin.

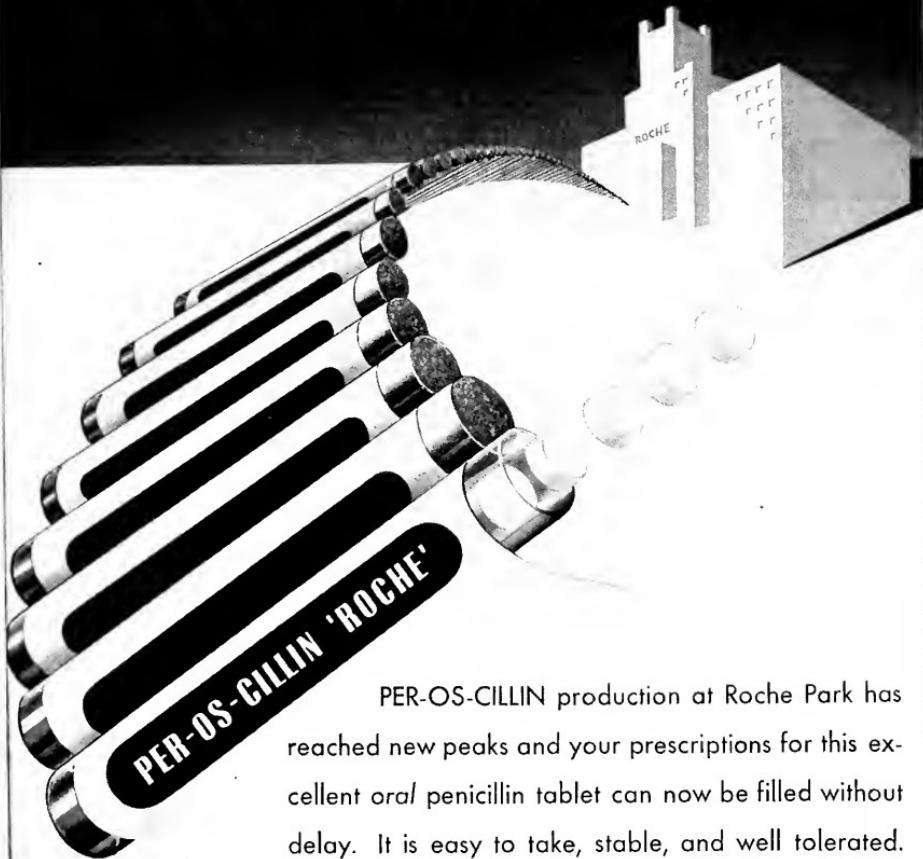
The use of an aluminum penicillin tablet containing sodium benzoate for oral administration in the treatment of gonorrhea, 200,000 units maintained an effective penicillin blood level for 24 hours. Given at 8 a. m. and at 4 p. m. (a total dose of 400,000 units) resulted in a cure rate of 97.2% in a series of female gonorrhea patients.

No untoward signs or symptoms were experienced with this type of penicillin therapy.

This is a preliminary report and the optimum time dosage schedule of this type of penicillin therapy by mouth in the treatment of gonorrhea has not as yet been ascertained.

Hynson, Westcott, and Dunning, Baltimore, furnished the oral penicillin tablets for this study.

NOW AVAILABLE



PER-OS-CILLIN production at Roche Park has reached new peaks and your prescriptions for this excellent oral penicillin tablet can now be filled without delay. It is easy to take, stable, and well tolerated. Special long-acting buffers effectively protect its potency from destruction in the stomach. Per-Os-Cillin tablets, 25,000 units each, are available in tubes of 12.

HOFFMANN-LA ROCHE, INC., ROCHE PARK, NUTLEY 10, N. J.

FOR DEPENDABLE ORAL PENICILLIN THERAPY

NEWS

BOWMAN GRAY SCHOOL OF MEDICINE

Dr. C. C. Carpenter, Dean, recently announced the gift of \$125,000 from Mr. Bowman Gray, Jr., matching a similar amount recently given to the school by his brother, Mr. Gordon Gray. Both of these gifts are unrestricted in their use.

A Department of Preventive Medicine has been organized, and Dr. Thomas T. Mackie of New York has been elected Professor of Preventive Medicine and Chairman of the Division of Medicine.

Dr. John H. Ferguson, Professor of Physiology in the University of North Carolina School of Medicine, addressed the Bowman Gray Medical Society on April 15th, on Blood Coagulation and Modern Clinical Application.

NORTH CAROLINA OBSTETRICAL AND GYNECOLOGICAL SOCIETY

The meeting of the North Carolina Obstetrical and Gynecological Society, held in Pinehurst April 12th and 13th, elected for the coming year Dr. Wallace B. Bradford, of Charlotte, president; Dr. T. D. Tyson, of High Point, vice-president; and Dr. Richard B. Dunn, of Greensboro, secretary and treasurer.

CATAWBA VALLEY MEDICAL SOCIETY

Speakers at the regular meeting of the Catawba Valley Medical Society, held in Lenoir on April 23rd, were Dr. Ira S. Jones, of Lenoir, Dr. J. H. Fitzgerald, Jr., of Lincolnton, and Dr. Paul Sanger, of Charlotte.

EDNCOMBE-NASH MEDICAL SOCIETY

Dr. A. T. Thorp, of Rocky Mount, spoke on "The Relief of Pain in Obstetrics" at the meeting held at Rocky Mount April 10th.

DR. HOWARD R. MASTERS and DR. JAMES ASA SHIELD announce the association in the practice of DR. TUCKER, MASTERS and SHIELD of DR. GEORGE S. FULTZ, JR., recently released from active duty with the Army of the United States. Tucker Hospital, 212 West Franklin Street, Richmond.

DR. GLENN S. EDGERTON, formerly of Hickory, N. C., is associated in practice with Dr. Robert T. Ferguson, Charlotte. Dr. Edgerton is a licentiate of the American Board of Gynecology and Obstetrics and a Fellow of the American College of Surgeons.

MARRIED

Miss Dorothy Sarratt and Doctor Laurence Edwin Fleming, both of Charlotte, on Tuesday, the sixteenth of April, at Myers Park Methodist Church, Charlotte, North Carolina.

Dr. Marina Hoyt Henry and Mr. William Lauren Moses, of Chapel Hill, were married on May 11th.

Miss Wilmer Peck Peters and Dr. John Randolph Gamblin, of Harrisonburg, Virginia, April 26th.

DIED

Dr. Simon Flexner, director emeritus of the Rockefeller Institute for Medical Research and world renowned for his studies of meningitis, infantile paralysis and dysentery, died May 3d following an operation.

At 26 he had been graduated from the University of Kentucky's Medical School and, under the tutelage of Dr.

William H. Welch, then Dean of the Johns Hopkins Medical School, he started his long career of research into infectious diseases. While serving on a Commission sent to the Philippines in 1899 to investigate tropical disease, he discovered the bacillus responsible for a form of dysentery wide spread in the world. Out of a grave epidemic of cerebrospinal meningitis which struck New York City in 1904 came Flexner's serum treatment, which since has saved countless lives.

After his retirement as active head of the Rockefeller Institute for Medical Research in 1935, Flexner became Eastman Professor at Oxford University.

Dr. A. W. James, of Laurinburg (Jefferson, 1918), a brother of Dr. W. D. James, of Hamlet, died at his home on April 4th.

Dr. Robert B. Scales, 74, died April 28th, after five years of invalidism, four of which were spent in the Davis Hospital, of his home city. Dr. Scales practiced in Boston for a quarter-century.

PERNICIOUS—From p. 156

treatment in hospital, intravenous infusions of 10 per cent glucose in saline solution fortified with injectable concentrates of vitamins of the B group, particularly thiamine. The use of intravenous glucose might even precipitate an impending deficiency state if vitamins were not supplied in adequate amounts. In the initial period it is often well to discontinue the oral intake of all foods and liquids until the tendency toward vomiting has ceased. Adequate liquid can be supplied by the intravenous or the rectal route, utilizing the continuous drip method. Sufficient sedation to keep the patient relaxed and slightly drowsy is beneficial. For this purpose hypodermic injections of phenobarbital sodium, 2 grains, are effective.

After the nausea has been controlled, frequent small, dry feedings of bland foods again may be instituted and, with improvement, the diet may be increased in caloric content and volume to tolerance. Sedatives can then be given orally.

Pyridoxine has been used at the clinic in mild and severe cases of pernicious vomiting in doses of 50 mg. intravenously every one to three days, and in many cases the results apparently have been good. The optimum rate of administration appears to vary considerably and we have relied largely on the patient's subjective symptoms and rate of improvement in regulating the injections.

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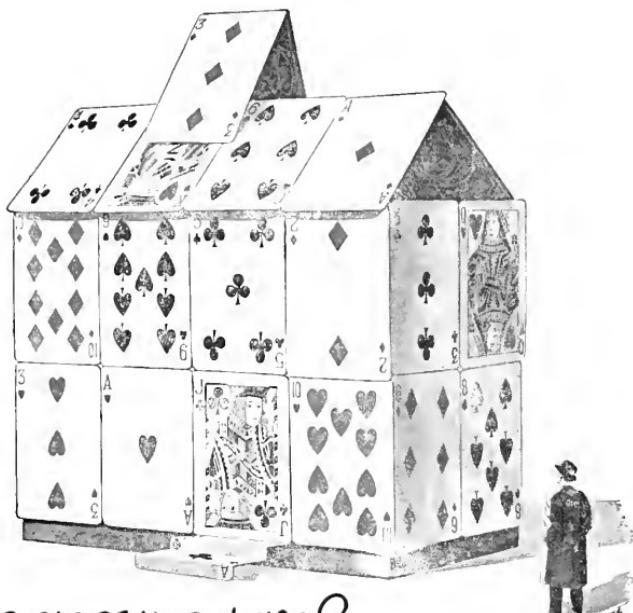
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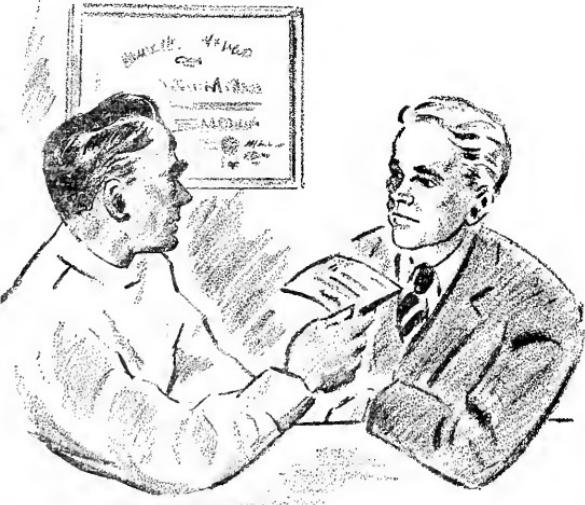
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JAMES M. NORTHINGTON, M.D., Editor

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Allergic Rhinitis; Seasonal Type

W. RANDOLPH GRAHAM, M.D., Richmond

TERMINOLOGY

SEASONAL allergic rhinitis is best known as hay fever. The disease is also sometimes designated: "rose cold," "autumnal catarrh," "pollen disease," "seasonal allergic coryza," "pollinosis," et cetera. None of these terms is entirely satisfactory. Fever is rarely, if ever, an accompaniment of uncomplicated pollinosis, and hay is unimportant as a causative agent. The terms catarrh and coryza imply the presence of an inflammatory process, and lack desirable descriptiveness. Rhinitis also indicates inflammation but appears to be more applicable because of its descriptive quality. Hay fever will be used throughout this discussion synonymously with seasonal allergic rhinitis.

HISTORICAL

Those of you who are interested in the detailed history of this disease should read Thommen's section on Hay Fever in the book by Coca et al. This authority divides the history of hay fever into six periods. The history begins in 1565 with reference to Leonard Botallus, Royal Physician of the City of Asta. He knew "for a certainty of men who at the smell of roses were seized with a loathing as against their chief enemy and that to such an extent as to be subject to headache or a sneezing fit or a running at the nostrils so that for two days it could not be stopped by rubbing."

The second period begins with a paper by John Bostock in 1819. This author eight years later first used the term hay fever in medical literature. Because Charles Blackley was first to organize and

plan experimental work in the field of hay fever he receives credit for ushering in the third historical period. The fourth period is said to have begun when Daly in 1881 reported the presence of hyperesthetic areas in the noses of hay fever sufferers. Daly gave the disease recognizable pathology and inaugurated its surgical treatment. Prior to this time therapeutic efforts were haphazard in character and only palliative.

The closing years of the nineteenth century saw the advent of the fifth period of the history of hay fever. Dunbar, stimulated by the epoch-making work of von Behring and Kitasato with diphtheria antitoxin, patented and marketed a serum under the trade name Pollantin. This so-called antitoxin was obtained from horses and other animals which had previously been injected with increasing doses of pollen. Although Pollantin did not prove to be a specific therapeutic agent, it undoubtedly was a useful stepping-stone toward our present ideas of specific pollen therapy.

The sixth, or present period, began in 1911 when Noon and Freeman reported their experience with pollen extract therapy. They had previously treated large groups of patients with procedures similar to those now employed. At the outset they thought that such treatment would result in permanent cure.

Etiology

It has been estimated that from 1 to 3 per cent of the general population have hay fever. This amounts to 3 to 4 million sufferers in the United

States and approximately one-third of the practice of the allergist. This condition affects the sexes in about the same ratio and usually occurs between the ages of 15 and 40. However, it is the feeling of most observers that it begins more frequently in early childhood than is ordinarily believed. The black and yellow races are less susceptible than are Caucasians and the American Indian is rarely affected.

Hay fever is primarily indigenous to the temperate zones. Social status is of little or no etiologic importance, but because hay fever patients possess active vegetative nervous systems they get credit for being more intelligent.

Because hay fever is one of the atopic allergic diseases, heredity plays an important etiologic role; indeed, heredity is probably the most important predisposing factor. Inherited constitutional susceptibility apparently resides in the cells of the nasal mucous membrane. Subsequent contact between sensitizing pollen or mold and congenitally conditioned mucous membrane is the final determinant of sensitivity. Europeans develop allergy to ragweed after coming to the United States.

The relationship of endocrine, neurogenic, and psychogenic factors to hay fever is too little understood to warrant discussion. Infection is not as important in hay fever as in perennial allergic rhinitis and bronchial asthma.

PATHOLOGY

The pathology of hay fever is similar to that of the early, or vasomotor, stage of perennial allergic rhinitis, and consists primarily of edema of the nasal mucous membrane, with eosinophilic infiltration and thickening of the basement membrane. Inspection reveals a boggy, pale-bluish, edematous mucous membrane covered by watery or mucoid secretion. The permanent changes all too frequently encountered in the perennial type of rhinitis are not often found in hay fever, in all likelihood because of the evanescent character of the latter. Even the reversible changes are usually absent or disappear during the off season.

SYMPOTOMATOLOGY

Although the cardinal local symptoms of hay fever—rhinorrhea, sneezing, nasal obstruction, increased lacrimation, and loss or diminution of the sense of smell—are concerned for the most part with the nose itself, less frequently adjacent anatomical structures are affected and give rise to such additional complaints as itching of the nose, eyes, roof of the mouth, and tongue; edema and redness of the conjunctivae; photophobia and pain in the eyeballs; cough, partial deafness, and headache.

The systemic symptoms complained of consist of weakness, lassitude, anorexia, mental depression, and digestive disturbances.

CLINICAL COURSE

The clinical course of hay fever is variable because it is dependent upon such factors as atmospheric conditions, individual threshold of tolerance, concentration of offending allergens, and factors which influence pollination or the dissemination of molds and fungi.

Most pollen is produced between sunrise and 9 a. m. High winds dislodge more pollen granules from their source and carry them farther afield. Rainfall, humidity or even cloudiness depresses pollen production and transport. A sojourn at the seashore, when the wind is from the sea, has a salutary effect upon symptoms.

Although the time of onset of clinical symptoms in the average case of grass or ragweed pollinosis can be foretold remarkably accurately, such is not the case in regard to tree pollens, as their time of appearance is very variable. Last year some of our chief tree offenders in central Virginia pollinated one to one-and-a-half months ahead of schedule, thus playing havoc with our prearranged hyposensitization programs.

DIAGNOSIS

The clinical diagnosis, although now usually made out of season (for most prospective patients have learned that they can be most satisfactorily treated before symptoms appear) is in many cases obvious and usually arrived at after consideration of the history alone. One must, of course, be familiar with the symptoms of the disease and know the time of pollination of all plants within a radius of several miles of the patient's haunts capable of producing such symptoms. We are fortunate enough today to be able to procure such valuable information without cost or bother. However, the specific etiologic diagnosis is sometimes difficult to make. In some instances the history; the physical and laboratory findings, skin tests, ophthalmic tests, mucous membrane contact tests, and even the passive transfer technic of Prausnitz-Küstner must be resorted to in order to accurately determine what specific agent or agents are responsible for the patient's symptoms.

Skin testing may be applied to best advantage in asthma, hay fever, and perennial allergic rhinitis—probably because here the sensitized mucous membrane comes in direct contact with the unadulterated allergen. At the Graham-Thomas Clinic we rely chiefly upon the scratch or dermal test. This method, though less sensitive and less discerning than the intracutaneous or endermal technic, has the advantage of expedition and safety, and is altogether better suited to our purposes. We routinely use a 1:30 pollen extract for dermal tests. For additional safety the tests are performed on the forearms and arms because of the ease with which constitutional reactions can be prevented or

controlled by means of the tourniquet and adrenalin chloride.

Ophthalmic tests are done routinely to the grasses and ragweeds, when dermal tests are negative, and incidentally to all other individual pollens as indicated. These are entirely safe when the scratch test is negative and when proper dilutions of pollen extract—1/1,000, 1/100 and 1/10—are used. Not infrequently the test is performed with the dry pollen granules themselves. By the same token the endermal technic may be employed when either the dermal test or the ophthalmic test, or both are negative, and certain pollens are still suspected, a part being selected at which the rate of absorption of allergen can be readily controlled. Serially concentrated extracts are always to be used, beginning with an extract which is not expected to produce a positive reaction.

The Prausnitz-Kustner or passive transfer method of testing is usually reserved for those cases in which direct testing is either impossible or undesirable. In rare instances this procedure will reveal the true offender when all other methods have failed. This technic is most used in neutralization experiments, in demonstrating the blocking antibody and other similar immunologic phenomena.

It should be borne in mind that, although the results of the various tests described are fairly reliable and constant, specific treatment should not be recommended simply because the patient reacts positively to one or more of the tests. Positive reactions may indicate past, present, or future clinical disease. It is unwise, possibly even harmful, to prescribe ragweed injections for one who lives in Virginia and who is quite comfortable during the latter part of August and throughout September. Food allergy is a not infrequent accompaniment of hay fever, and I have found it good practice to do food tests routinely on all pollen cases when possible.

All hay fever is caused by pollen, but this is not true of all allergic rhinitis of seasonal type. Some individuals are atopically sensitive to fungus spores and react to them similarly to pollens. *Alternaria*, *Hormodendrum*, *Penicillium*, *Aspergillus*, *Mucor*, and other fungi have a definite seasonal distribution in certain parts of the United States. It is true that in this part of the country their seasonal appearance and disappearance cannot be anticipated with a high degree of accuracy. They are prevalent with us from April to October.

All flowering plants produce pollen, but fortunately for atopic individuals few of them cause trouble. In order for a pollen to cause hay fever it must have three characteristics in marked degree—abundance, buoyancy, and allergenic toxicity. The vast majority of pollens do not possess these criteria. Abundance implies that the plants them-

selves must be plentiful. We find this characteristic fulfilled by our weeds which grow in waste places, along roadsides, hedgerows and fences; by our grasses which flourish in our grazing lands and on our lawns; and by our abundant trees.

It is well known that the pollen grains of plants that possess conspicuous flowers are sticky and heavy, and therefore not very buoyant. Goldenrod, sunflower, and garden flowers may be cited as common examples. I do not imply that these pollens never cause hay fever, but it is true that their importance is greatly magnified and that they cause trouble only when contacted near their source. The opposite, however, is true of ragweed, certain grass pollens, and pollens of many trees.

There are only five families of weeds and grasses, and about eight of trees the pollen of which possesses high allergenic toxicity. In this part of our country spring hay fever usually begins in March and continues until June. The responsible trees are: alder, ash, beech, birch, cottonwood, elm, hickory, maple, poplar, oak, pine, walnut, willow, box elder, privet, mimosa, and possibly other varieties.

Summer hay fever begins in May and continues into July. It is caused primarily by grasses; but English plantain, lamb's-quarters, sheep sorrel, and spiny amaranth are often involved also. Our most important grasses are: June, orchard, red top, sweet vernal, and timothy. Some allergists find it expedient to use the pollen of timothy alone for diagnosis and treatment of all grass cases.

The fall pollen season sets in about August 15th and continues into the first or second week of October. The important weeds are ragweed (short and giant), cocklebur, and red-root pigweed. In certain localities wild rice and marsh elder (*Iva*) may also be of clinical importance.

DIFFERENTIAL DIAGNOSIS

In the differential diagnosis of hay fever one should consider the common cold, perennial allergic rhinitis, sinusitis, and vernal catarrh.

COMPLICATIONS AND SEQUELAE

Bronchial asthma is by far the most common complication of seasonal allergic rhinitis. Allergic bronchitis and cough of allergic origin are also frequently encountered as accompaniments of this condition. Sinusitis is likewise a complication but not so frequently as in the case of the nonseasonal type of allergic nasal disease. Other allergic phenomena, such as perennial allergic rhinitis, urticaria, eczema and migraine, are also found in conjunction with hay fever.

TREATMENT

The treatment of hay fever may well be discussed under the two broad headings of palliative or symptomatic and specific or hyposensitization therapy.

I. Palliative or Symptomatic Treatment

Drugs employed in the symptomatic treatment of hay fever may be administered locally, parenterally, or internally.

Local measures usually consist in the instillation of some shrinking agent into the nose, or the use of eye-drops, or both. Various preparations are used for these purposes. Some of the newer and more popular decongestants have been found to be harmful in some instances. Cocaine is useful, alone, or in combination with ephedrine and neosynephrine. Eye drops containing cocaine hydrochloride 0.1 gram, boric acid 1.0 gram, adrenalin (1/1,000) 8.0 c.c. in rose water up to 32.0 c.c., can be recommended for the amelioration of edema and congestion of the eyes.

Ephedrine, alone or in combination with an atropine derivative and one of the barbiturates, by mouth, is often comforting. Vitamins, mineral salts, nitrohydrochloric acid and endocrine preparations are of no proven value. The new "magic drug" Benadryl has not been used long enough for evaluation in this disease. Adrenalin 1/1,000 or adrenalin and 3 per cent aqueous ephedrine sulphate equal parts, parenterally, will temporarily abate disagreeable acute symptoms.

Properly installed pollen filters and air-conditioning systems are beneficial so long as the sufferer remains in the room or house so furnished. A sojourn in a region or country in which the particular pollen to which the patient is allergic does not exist is very effectual. Tree and grass pollens are so abundant in the temperate and torrid zones, however, that avoidance of them is practically impossible except through the medium of an ocean voyage. Ragweed does not grow in sufficient abundance in Europe, the White Mountains, or northern Minnesota to cause hay fever. Ragweed is also scarce west of the Rockies, in northern Michigan, and on the Florida Keys. It does not exist in Bermuda.

Iontophoresis and the use of escharotics are no longer popular as palliative measures.

Surgery should never be prescribed for uncomplicated hay fever. Polyps, which incidentally do not occur as frequently as in perennial allergic rhinitis, should be removed, but out of season and when the patient is free of symptoms.

II. Specific or Hypo-sensitization Treatment

When pollen avoidance is impossible or impracticable and palliative measures fail to give satisfactory relief of symptoms, the specific or hypo-sensitization type of therapy should be tried. This consists in repeated subcutaneous injections of pollen extract.

The immunologic mechanism by which hypo-sensitization is effected is still controversial. We do know that it is not entirely analogous to desensiti-

zation of the experimental animal, for in allergic man the presence of circulating antibodies can be demonstrated after hypo-sensitization is accomplished, and without material diminution in numbers. This can be readily proven by means of the dilution test of Cooke, which determines both the activity and amount of reagins present. On the other hand Cooke has demonstrated the presence of an antibody in ragweed-treated serum that does not exist in nontreated individuals. This is known as the blocking antibody. It differs from the skin-sensitizing reagin in that it is thermostable and does not possess skin-sensitizing qualities.

The choice of pollen extracts is another controversial subject among allergists. Many employ timothy alone as the representative of offending grasses for both testing and therapy. Many allergists also test and treat with short ragweed alone. At the Graham-Thomas Clinic we test routinely with Bermuda, broom, Johnson, June, orchard, timothy, redtop, rye, and sweet vernal grass. Our stock grass mixture, which we use routinely for therapeutic purposes, contains equal parts of seven ingredients. We likewise treat with a mixture of equal parts of short and giant ragweed pollen. It is also our custom to test with 17 varieties of tree pollens and treat with each variety that produces a significant reaction.

Two additional matters about which there is still a lack of universal agreement are standardization of pollen extracts and dosage. The four different methods used for designating the strength of a given pollen extract are: dilution method, total nitrogen unit, Noon unit, and protein-nitrogen unit. The Noon unit is the amount of pollen allergen contained in one millionth of a gram of pollen. From this information it can be readily calculated that 1 c.c. of a 1/50 extract contains 20,000 Noon units ± and that 1 c.c. of a 1/30 preparation contains over 30,000 Noon units. It can also be shown that 30,000 Noon units are equivalent to 40,000 total nitrogen units ± or 15,000 protein-nitrogen units ±. We employ the dilution method in our clinic and prepare dilutions of 1/30, 1/300, 1/3,000, 1/30,000, and so on. When the dermal reaction is no greater than two-plus it is usually safe to start the out-of-season therapeutic dose at 0.1 c.c. of 1/3,000 dilution subcutaneously. Rarely is it necessary to begin with a preparation more dilute than 1/60,000.

There are three methods of treatment in vogue at the present time: the preseasional or prophylactic; the coseasional or phylactic; and the perennial or annual. Here again one finds differences of opinion regarding the method of choice. We have found a modified combination of preseasional and perennial methods best suited to our needs. With this technic the patient receives his estimated protec-

tive dose (in the case of ragweed usually 1 c.c. of 1/30) just before the onset of the pollen season. The dose is then lowered to 0.2 c.c. of 1/30 throughout the season and continued at this level at semimonthly intervals until just sufficient time remains before onset of the next year's season to again increase the dose to the patient's tolerance, or the more or less arbitrary dose of 1.0 c.c. of 1/30 concentration. This procedure is repeated year after year so long as indicated. It is well to remind at this point that pollen tests should be repeated yearly when feasible because of the probability of changes in the allergic status.

With the preseasional method the estimated protective dose, or the largest tolerated dose, is given just before the pollen season begins. Injections are then discontinued until time for starting preseasional hyposensitization the following year.

The coseasonal method, conceived and recommended by the late Warren T. Vaughan, is a great boon to those sufferers who cannot or will not submit to either of the other two plans. The secret of this method is to start the dose small and increase it a small amount (0.05 c.c. to 0.2 c.c.) daily, till relief is obtained or it becomes evident that the procedure is destined to failure. When remission of symptoms occurs injections are discontinued until disagreeable symptoms recur. One then starts again with whatever dose appeared to give optimum relief. This relief-giving dose is repeated daily until remission again occurs and then again discontinued. This procedure is repeated throughout the entire pollen season as indicated. Usually one may begin with 0.1 c.c. of a 1/3,000 extract. This method is also frequently helpful in those instances in which the estimated top preseasional dose fails to give satisfactory symptomatic relief. Some patients prefer this to all other methods and receive quite satisfactory relief through its use.

Hay fever sufferers who are also victims of food allergy invariably respond more satisfactorily to specific pollen therapy when, for the duration of the critical hay fever season, they abstain from all foods to which they are allergic.

REACTIONS

Constitutional reactions are the *bete noir* of specific pollen therapy. They should always be borne in mind as decidedly undesirable eventualities. Here is another instance in which prophylactic measures are far superior to phylactic ones. Many constitutional reactions can be prevented by the simple expedient of careful observation and questioning of the patient. Attention should be given any untoward symptom the patient complains of while receiving injections; and such prodromal symptoms as itching of the palms or soles, paroxysms of sneezing and itching of the nose, appear-

ance of hives or localized edema, tightness in the chest, and untoward reactions at the site of injection are danger signals that simply must not be disregarded or treated lightly. It is always advisable to have patients who are receiving pollen injections for the first time remain in the office under observation for at least thirty minutes after each injection.

The technic of management of the constitutional reaction depends to some extent upon the type and severity of the attack. Usually the application of a tourniquet above the point of injection and appropriate subcutaneous administration of adrenalin chloride 1/1,000 will suffice. In the most severe attacks, however, other measures such as the inhalation of oxygen and the intravenous administration of aminophyllin must be resorted to. One should not treat an untried patient with pollen extract unless he is prepared to immediately control the constitutional reaction which may follow.

PROGNOSIS

The results obtained with adequate specific pollen therapy are, on the whole, very good. A few patients—two to five per cent—get complete relief. Eighty to 85 per cent experience almost complete relief, i.e., have disagreeable symptoms only on pollen-peak days—usually four to ten in the entire season. The majority of the remaining patients should obtain 75 to 85 per cent remission of symptoms, while a yet remaining few get no relief at all.

One does not expect or promise to cure hay fever. The inherited peculiarities of the atopic individual cannot be corrected, but a considerable number of patients who undergo appropriate and adequate specific treatment over an uninterrupted period of several years find that they can discontinue injections, for a time at least, without return of symptoms. They appear to be in a state of permanent, or at least prolonged, remission.

Failures with specific treatment occur in five to 10 per cent. About half of these are unavoidable with the present extent of our knowledge. With the remaining half, failures spring from one or more of four recognized sources: (1) wrong etiologic diagnosis; (2) improper selection of dosage; (3) use of impotent or deteriorated extracts; (4) failure to recognize the importance of other contributing allergens, foods, dusts, epidermals, fungi and bacteria.

—201 W. Franklin Street

A POINT WELL WORTH REMEMBERING

One must remember that meningeal inflammation regularly results from the introduction of foreign substances, the most common of which are blood and air. An abnormally high number of white cells in the cerebrospinal fluid at any time within a week after subarachnoid or ventricular bleeding from whatever cause or within a like period after the artificial introduction of air, serum, or chemicals is not a sign of infection of the meninges.

Malaria as Observed in North Africa and Italy*

H. ST. GEORGE TUCKER, JR., M.D., Richmond
Medical College of Virginia Hospital

CHEMO-SUPPRESSION of malaria as a matter of military expediency is not new. In 1915, prior to the British expedition in Salonika, elaborate plans for quinine prophylaxis were made, but unfortunately were not executed. In a force of 115,000 troops 60,000 cases of malaria occurred, and by the autumn of 1916 not 20,000 men remained in the line. However, by 1917 quinine prophylaxis was rigidly applied and the incidence of malaria fell precipitously.

Atabrine was synthesized in 1930, and soon its effectiveness against the schizont stage of all types of malarial parasites was demonstrated. From 1937 to 1939, well controlled experiments in Panama and in Georgia demonstrated the effectiveness of atabrine in preventing clinical malaria in large groups subjected to heavy exposure. These experiments also demonstrated the absence of toxic reactions to the drug in individuals maintained on adequate suppressive dosages for periods of six months or longer.

World War II has been an ample proving ground for the effectiveness of suppressive atabrine in keeping troops in the field in highly malarious areas. The choice of atabrine over quinine was initially dictated by the dwindling supply of the latter after 1941. However, experience has shown atabrine to be the equal of quinine in every respect, and many recent reports cite its superiority, especially in *P. falciparum* infections. Unpleasant side effects of atabrine are familiar to all who have used it, but for most individuals these become negligible when tolerance is established.

It should be emphasized that atabrine suppressive treatment does not prevent malaria. At the present time, there is no drug known which can prevent malarial parasites from entering the body or effectively rid the body of all stages of the parasites. Atabrine in sufficient plasma concentration does prevent the multiplication of parasites within the blood cells and thereby prevent the symptoms of clinical malaria. It is therefore useful to keep men on their feet during urgent military operations. Infection may be contracted while on full atabrine dosage, and on cessation of the drug, clinical malaria will usually become apparent. The attack has merely been postponed to a more convenient time.

Many of us have felt, without factual proof, that atabrine goes further than this. A considerable number of cases of malaria must be actually cured

without ever reaching the clinical level. When suppressive therapy has been discontinued in troops, outcropping of previously suppressed malaria of course occurs. But the total number of cases has seemed much lower than what would be expected without suppressive treatment. It seems probable that many individuals may be infected while on suppressive medication and the parasite held in check until it dies out or is overcome by factors of bodily resistance, and no clinical infection ever ensues. There is recent evidence indicating that such complete cure does occur, particularly in *P. falciparum* infections.

The exact level of plasma atabrine necessary to suppress malaria is not known with certainty. It may be that it varies in different individuals. Plasma atabrine determinations as a routine procedure were not feasible in an overseas theatre, and in our work little was learned about effective blood levels. The suppressive dosage used in the Army has been arrived at by trial and observation. In Africa in 1943, a dosage of three grains twice a week was used. It became apparent that too many cases were breaking through, and 1944, when the campaign had moved to Italy, the dosage prescribed was increased to one and one-half grains daily. The incidence of malaria was considerably reduced, although many cases still broke through. It is possible that some individuals require even larger doses, but most of the break-throughs were probably due to failure of the individual to adhere to the prescribed routine. The most difficult feature of the suppressive program has always been the enforcement of any measures prescribed, and frequently atabrine discipline has been at its poorest at the most critical stages of the campaign. It is thought that rigid adherence to the daily dosage of one and one-half grains will prevent clinical malaria in all but a very small percentage of individuals.

Although atabrine is promptly absorbed from the intestine, tissues must first be saturated before a plasma concentration effective for the suppression of malaria is attained. Half the maximal level attainable is reached in one week, three-fourths in two weeks, and so on. For practical purposes, it may be considered that the maximal level is reached in four weeks. Hence atabrine administration should be begun four weeks before the beginning of the malaria season or before the movement of

*Presented to the Forty-seventh Annual Meeting of the Tri-State Medical Association of the Carolinas and Virginia, held at Richmond, February 25th and 26th.

troops into malarious areas. Likewise, the elimination of atabrine is slow. Following cessation of the drug, the blood level drops by fifty per cent each week. Clinical relapses can be expected to begin about two weeks after suppressive therapy has been discontinued.

Discussion of the toxic effects of atabrine invariably gives rise to vehement argument, usually based on distressing personal experience. The Black Friday in Rabat when our personnel began atabrine will live long in the annals of the 45th. The sound of retching in the Balima Hotel surpassed any of the nightly revels of the Arabs during Ramadan season. There is no question that gastro-intestinal symptoms—nausea, vomiting and diarrhea—are common on first acquaintance with the drug. Anticipation of these symptoms brought about by the vivid descriptions given by old-timers has undoubtedly tremendously aggravated their severity. In most individuals the initial symptoms are mild and tolerance is soon established. An initial dosage of one-half or one-fourth tablet, with gradual increase until full dosage is reached, will minimize the gastro-intestinal reaction. The drug should be taken at mealtime, preferably with supper. Complete tolerance with no symptoms whatever is usually established within one or two weeks. It is estimated that less than one per cent of all individuals are truly intolerant. These few should be given quinine. All who have treated malarial attacks with atabrine have noted the almost universal absence of side effects on many times the dosage used in suppressive therapy.

In all the experience with long-continued use of atabrine in suppressive dosage, almost no toxic effects on the body have been noted. One recent report has called attention to certain types of dermatitis seen rarely after long administration of atabrine. Toxic psychosis has been described with massive dosage far above that used in the prophylaxis or treatment of malaria. The drug can be considered safe in all ordinary dosages.

As the tissues become saturated with atabrine, the skin develops a yellowish discoloration which may be pronounced. This should not be considered a toxic symptom and is no indication for alteration in dosage. It disappears within a few weeks after cessation of the drug. Its chief importance is in its confusion with jaundice. A differential point is that in atabrine discoloration the skin is intensely yellow before any pigmentation in the sclerae is visible, whereas in jaundice, the yellow sclerae are much more noticeable than the discoloration of the skin. The icteric index is not elevated in intense atabrine discoloration, and atabrine in the plasma or in the urine can be measured by fairly simple laboratory tests.

Simulation of jaundice by self-medication with

atabrine is a not uncommon means of malingering. Two cases were encountered in the 45th General Hospital, both admitted with the diagnosis of hepatitis with jaundice, deeply yellow, but showing normal icteric indices and liver function tests. High blood and urine atabrine levels were found. When confronted with the facts, one confessed self-medication with atabrine in an effort to avoid hazardous duty. The other repeatedly denied having taken any atabrine but a large supply was found in his personal effects. These cases were referred to the Judge Advocate General for action. No other cases were seen in our hospital, but such attempts were said to be common among certain troops whose morale was low.

The difficulty of enforcing any program for the administration of atabrine to troops has been mentioned. Indifference, fear of toxic reactions, and sometimes the conscious desire to contract malaria and escape duty must be overcome. Successful suppressive therapy demands thorough indoctrination and education of troops as to the dangers of malaria, strict supervision of the actual taking of the tablets, and, above all, eternal vigilance under the varying conditions of warfare. These are command functions, although it is usually the lot of the medical officer to see that they are carried out. And it must be constantly borne in mind that suppressive therapy constitutes only a small part of adequate malaria control. Selection of proper camp sites, mosquito control by such measures as drainage and filling and the use of larvicides and insecticides such as DDT, are essential. Similar attention must be directed to individual protective measures, which include the use of protective clothing, bed nets and repellants, aerosol sprays in tents and quarters, and strict enforcement of avoidance of all unnecessary exposure to mosquitoes. Suppressive therapy is only an expedient to make military operations possible where the measures of true malaria control cannot be ideally carried out.

Suppressive therapy has its chief usefulness then in the field in time of actual combat. Its use in rear areas or during prolonged training periods is open to question. Many will argue that under these conditions attacks of malaria should be allowed to occur rather than postponed to a later date. The answer to this will lie in the determination of how many infections are permanently aborted by the use of suppressive atabrine. If this figure is significantly high, as is our impression, then suppressive therapy is without question indicated for all troops in any malarious region. Such findings would also justify its use among civilians in parts of the world where malaria is endemic.

During most of the campaign in the Mediterranean theatre, while malarial infections were common, the incidence did not reach alarming propor-

tions and malaria did not cause serious loss of combat effectiveness of troops. One noteworthy exception was a serious outbreak of malaria which occurred in the troops invading southern France in August, 1944, which will be described.

Figures on the incidence of malaria per number of troops are not available, but a rough idea of the prevalence of malaria is given by its percentage of the total admissions to the medical service of the 45th Hospital. During no other month of the period of activity of this hospital did malaria admissions exceed thirteen per cent of the total medical admissions. In August, 1944, malaria admissions jumped to thirty-one per cent of the total medical admissions. This tremendous increase was caused by the admission over a two-day period of 149 malaria patients flown back from southern France a few days after the invasion of that country. It was evident that a serious breakdown of malaria control had occurred. Studies as to its cause were undertaken by means of individual questionnaires filled out by the ward officer for each patient relative to previous malaria, location of bivouacs, regularity of atabrine dosage, onset of symptoms, and other pertinent facts.

Of the total number of cases, eighty-three per cent were primary attacks.

P. vivax was the only organism encountered and positive smears were obtained in ninety-seven per cent of the cases. Three per cent had received treatment before a blood smear was taken.

Of this group, sixty-one per cent were from A Division, eighteen per cent from B Division, and twenty-one per cent from attached troops. These units had been withdrawn from the line in the late spring and had been given intensive pre-invasion training. During this period, they had been exposed to malaria, but anti-malarial discipline was high, and the rate of infection had been low. At the end of July, these units were moved into a bivouac area northwest of Naples and in the vicinity of the towns of Quagliano and Giugliano. This area was known to be heavily infested with malaria-bearing anopheline mosquitoes. After three weeks in this area, they were moved to the ports and embarked for France between August 8th and August 10th. The landing of all units on the coast of France took place on August 15th.

The onset of acute symptoms in seventy-five per cent of the cases occurred within the period between August 14th and August 18th. These patients became ill either on shipboard or within three days after arrival at the Beachhead. It was obvious that the malaria infection had been incurred in Italy rather than in France.

A particular attempt was made to determine from each patient the regularity with which atabrine had been taken, its availability in bivouac and on

shipboard, and the date of the last atabrine taken before the onset of symptoms. It soon became apparent that while the majority of the troops had taken atabrine fairly regularly during the summer and in the bivouac area, a very small number had continued their atabrine after leaving the bivouac area and boarding ship. Prior to embarkation, fifty-four per cent claimed to have taken atabrine daily, twenty-three per cent about five days a week, and twenty-three per cent had taken no more than half the prescribed doses. After embarkation only twenty-one per cent had continued the daily dosage, twenty-seven per cent had had one or two tablets only, while fifty-two per cent had had no atabrine at all. Fifteen per cent of the men stated that atabrine was not available so far as they knew aboard ship. Seasickness and other maladies were listed as excuses. Whatever the cause, four-fifths of the troops left ashore their long instilled adherence to atabrine discipline.

The interval between the last dose of atabrine and the onset of symptoms varied from three to nine days, with an average interval of seven days. This is a shorter breakthrough period than would be expected in troops whose previous atabrine blood levels had been adequate. The usual breakthrough period expected after cessation of atabrine is two weeks. It is highly likely that most of the men, when interviewed by a medical officer, stretched themselves a bit in describing the regularity with which atabrine had been taken, and that many of the blood levels had been borderline to begin with. Hence a shorter period without atabrine sufficed to lower the blood level to a point permitting breakthrough of clinical infection.

In reviewing these cases, two causative factors stand out. Certainly the selection of the Quagliano-Giugliano bivouac area was not a wise one. Necessity may have dictated the choice of this highly malarious region, but more adequate mosquito control by physical measures should have been carried out before its use by the troops. However, more important seems the breakdown of the suppressive routine coincident with the embarkation of troops. Clinical infections did not occur until one month after troops entered the bivouac area, but within a week after neglect of suppressive therapy. This resulted in the incapacitation of a large group of men at the very time when the need for unit effectiveness was greatest. Atabrine is naturally the last thing in the minds of troops embarking on an amphibious operation. Without special supervision from those in command, suppressive therapy will certainly go by the board at such a time. Specifically it was recommended in our monthly hospital report that all troops embarking on amphibious operations be provided with a week's supply of atabrine in a water-tight container for use when

The Use of Infra-Red and Ultraviolet Lights in General Practice*

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I SHALL deal with these subjects separately, showing of each their physiological effects, their indications and contra-indications, and elaborate in a small way upon some of the conditions in which they may be helpful.

The longer wave lengths as in visible and infra-red radiation, 3900 to 100,000 A. U., produce effects chiefly due to the heat generated within the tissues at the point of absorption. Chief effects thus produced are dilatation of blood vessels within the area of absorption with increase in both volume and rapidity of circulation; (2) increased phagocytosis; (3) relaxation of spasm and tension; (4) relief of pain due to action upon the terminal nerve endings and through reflex effects on the underlying structures; and (5) a slight germicidal action due to increased phagocytosis.

With these effects in mind, we may generalize that infra-red heat may be used with expectation of benefit wherever there is in progress: (1) inflammation, (2) infection, or (3) tissue repair, so long as it is used with care and understanding. From these generalizations we may mention certain specific conditions as arthritis, sprains, strains, neuritis and neuralgia; local infections as furuncles, carbuncles, infected wounds, particularly after perineal repairs, delayed union of fractures, prostatitis, etc. However, where the condition is deep-seated and the form of heat is to be penetrating, probably diathermy or inductotherapy is more advantageous.

At present the only absolute contra-indications to the use of heat and infra-red that come to mind are: (1) acute trauma with extravasation of blood into the tissues; and (2) those conditions where there is an organic insufficiency in blood supply.

In arthritis, infra-red rays, by means of moderate heat, dilate the capillaries, increase the circulation and accelerate tissue metabolism. The number of functioning capillaries in rheumatoid arthritis is markedly increased. The heat produces a mild analgesia in painful joints and makes the cold, clammy skin of the patient warm and red.

The advantages in the use of infra-red in eye conditions over other simple methods of applying heat are: (1) it is cleanly; (2) it can be administered without risk of infecting the wound; (3) there is no direct contact with the lids and no pain from pressure, such as may occur with the use of hot water bottles, etc.; and (4) there is less de-

mand on the nurses time as, once it is properly placed, it requires very little further attention.

The conditions and diseases of the eye for which infra-red rays are indicated are inflammation and infection, such as subacute and chronic conjunctivitis, hordeola, meibomian inflammation and infection, purulent dacryocystitis, acute iritis and corneal ulcer.

Specific desensitization offers probably the most relief to patients with hayfever, but in many cases such patients are not seen until the season of difficulty. What shall be done for them then? Open the blocked nose with butyn and ephedrine or similar product; then pack the nose with a 1-per cent neosynephrine, and while the pack is in place apply infra-red heat. The infra-red irradiation alone may be sufficient to make the patient much more comfortable and permit sleep. If the nasal blockage has been present a long time, the patient may suffer with headaches. Relief of the nasal blockage is of paramount importance. For the headaches the infra-red lamp, or short-wave diathermy apparatus, offers considerable relief in many instances.

Both diathermy and infra-red are penetrating forms of heat, though infra-red is not as penetrating as diathermy. In acute neuritis diathermy almost always increases the pain, and for this reason we reserve diathermy for cases of prolonged pain of a more chronic nature. Infra-red because of its less power of penetration very frequently gives good relief in cases of acute neuritis. Here I often give the patient the lamp and allow him to use it at home with more frequent applications than could be afforded at the office.

Infra-red is useful in the treatment of peripheral facial paralysis, particularly in cases characterized by tenderness over the facial nerve. It may be very helpful in curing Bell's palsy, having by no means any specific value; probably any form of dry heat would be equally efficacious.

Shorter wave lengths of the ultraviolet spectrum, 2000 to 3900 A. U., produce little heat effect, but do produce photochemical effects as evidenced by prolonged erythema followed by pigmentation, and the production of vitamin D, through the action of certain wave lengths on ergosterol present in the skin. Ultraviolet radiation is absorbed comparatively close to the skin surface, yet the increased superficial circulation, as shown by the erythema produced, exerts a sedative, pain-relieving action.

*Presented to the meeting of the Pitt County Medical and Dental Society held at Greenville, N. C., March 8th.

Ultraviolet has a very definite germicidal action through the rapid, plus the increased phagocytosis accompanying the erythema produced.

As a specific, ultraviolet rays may perhaps be limited to calcium-phosphorus deficiency states. Because rickets in some degree affects a high percentage of infants, this disease has become a criterion by which the radiation from various sources is often judged. In rickets there is a deficiency of both calcium and phosphorus. Although these may be supplied in adequate quantities in the diet, these elements cannot be assimilated and utilized unless there is present the catalyst, vitamin D. Ultraviolet rays activate ergosterol, which is normally in the skin but materially benefit the general health. Irradiation of the pregnant woman, or one giving suck, as well as irradiation of the infant, seems to be equally effective in preventing and curing rickets.

Other evidences of calcium-phosphorus deficiency such as tetany, spasmophilia and marasmus in infants, and osteomalacia and tooth decay in pregnant and nursing women, respond favorably to ultraviolet.

In acne and staphylococcus infections, ultraviolet rays play an important part, used with vaccine therapy. In staphylococcus infections ultraviolet has a powerful effect on the immunity processes, I believe equally important as vaccine therapy. Local irradiation is beneficial because of definite aseptic action on staphylococci, and probably the best response to local skin infections is exemplified in the management of impetigo. Pityriasis does well under mild doses of ultraviolet. Acne vulgaris very often responds well, but there are many recurrences. Sycosis clears up rapidly, as do lichen planus, tinea, and the more chronic forms of eczema—after discharges, crusts and ointments are removed. In ulcers and wounds, particularly those of badly nourished tissues, the results are good but slow. Results are good in recent wounds on normal tissues, as there occur stimulation of epithelial cells, vasodilation and sterilization—three very favorable factors in promoting the healing process.

Ultraviolet is valuable in the treatment of non-pulmonary forms of tuberculosis, such as tuberculosis of the intestines, peritoneum, epididymis, and lymph nodes. Most clinicians discourage its use in pulmonary tuberculosis, particularly in active cases with fever—probably because of the increase in general body metabolism.

Ultraviolet stimulates the endocrine system and a great deal has been written on the condemnation of the syringe loaded with hormones, particularly in the younger women, because of its tendency to cause atrophy of the ovary. Some clinicians are resorting to stimulation with ultraviolet.

The most worthwhile method of dealing with the complex problem of the common cold is found in prophylaxis. In addition to correct hygienic measures, ultraviolet is conceded to have prophylactic value. The rays stimulate the endocrine system which controls the circulation of the skin. Blood supply is increased, the nutrition of the dermal and epidermal cells is improved, and as a result the skin becomes warmer and physiologically more active. A more satisfactory adjustment to environmental temperatures develops and hypersensitivity to cold ceases. Also, since immunity is largely controlled by the reticulo-endothelial system, of which the skin is the largest organ, stimulation here has another active role. For the same reason vaccines given *intracutaneously* are more efficacious than when given *subcutaneously*.

Now a few of the contra-indications to ultraviolet irradiation: (1) all forms of acute general dermatitis; (2) certain cutaneous disorders as atrophy, keratoses, prematurely senile skin, herpes simplex, veroderma pigmentosum, lupus erythematosus, eczema and psoriasis (exposure to the rays may cause an exacerbation); (3) active and progressive forms of pulmonary tuberculosis; (4) diabetes, thyroid disease and suprarenal gland disease with pigmentation and fall in blood pressure; and (5) in advanced cachexia, inanition and in aged patients with acute or chronic myocarditis or nephritis. Exposure of the eyes to ultraviolet radiations will produce a conjunctivitis and a temporary transitory astigmatism. But the eyes can be protected by goggles opaque to the rays. Simply closing the lids is not adequate; if the lids are not protected against the rays inflammatory changes with edema of the lids will be produced.

In conclusion, I would like to say that these forms of physiotherapy, infra-red and ultraviolet rays, are never a complete therapeutic regimen when used alone and neither is specific except in the case of rickets, but they must be considered as valuable adjuncts to other forms of treatment.

SUPRASELLAR AND INTRASELLAR EPIDERMOID TUMORS have been considered quite rare. We have encountered a number of tumors of this type. A high degree of suspicion of such a lesion in the presence of progressive visual loss even in the absence of roentgenographic changes in the sella turcica, should be entertained in order that these patients may be spared unnecessary loss of vision. Early diagnosis and early removal of the tumor will result in restoration of vision to normal. Even when the lesion is far advanced and the condition apparently hopeless, the patient should be offered the opportunity that craniotomy affords for the removal of the tumor and possible return of useful vision.—J. G. Love & C. W. Rucker, in *Proc. Staff Meet. Mayo Clinic*, May 15th.

CLINIC

Conducted by

FREDERICK R. TAYLOR, B.S., M.D., F.A.C.P.,
High Point, N. C.

THREE CASES, almost identical in symptomatology during an attack, but with varying frequency of attacks, are of interest. The same tentative diagnosis was made in all three. In one it was known to be right at the time, for reasons that will be obvious; in another it was proved right by x-ray; in the third it was proved wrong by the same method, elaborated.

The first was that of an aged man, who gave the interesting history of having had, at the age of 75, under my observation, a typical case of severe measles, though in his younger days he had been a schoolteacher and later a country postmaster and a storekeeper. But he had postponed his measles to that advanced age. The trouble under discussion hit him some considerable time after his measles. He developed a sudden swelling and great pain in the sublingual region of a few hours' duration. During my visit to his home, he suddenly called for a basin, and violently expelled a salivary calculus from the opening beneath his tongue, hitting the basin with it almost like a shot. It was followed by a profuse discharge of saliva. Obvious diagnosis: sublingual sialolithiasis. No treatment needed. The condition had cured itself.

A young married woman had repeated attacks of parotid swelling, coming on just before meals, with pain in the region of the gland involved. No stone was expelled, but the attack ended with a profuse discharge of saliva from the parotid in question. X-ray showed a typical parotid sialolith, which was removed surgically.

Another married woman had similar attacks that seemed quite typical of parotid sialolithiasis. Ordinary x-ray findings, however, were negative. She finally went to Dr. James Harrill of Winston-Salem, who catheterized the salivary duct, injected a radiopaque substance, and demonstrated a stenosis of the duct, which, after repeated dilatation, gave no further trouble.

* * *

Four patients gave a history of having been bitten a short time before by a snake. Two were bitten on the leg or ankle, two on the hand. In three of the cases (2 men and a young woman) the swelling and pain were extreme in the entire extremity concerned, and the description left little doubt that the bites were from copperheads. One of these patients I saw myself in my early years of practice, the other three in consultation. In one case, the man had killed the snake that bit him, and told me he could find the snake's body. After treating him for copperhead bite, he got the snake,

and it proved to be a copperhead. The fourth case, a small boy, son of a doctor, was struck in the city of Winston-Salem by a snake. The swelling was far from extreme, there were no constitutional symptoms, and I hardly felt that serum was needed. To play safe, however, his father, who asked me to see him with him, injected procaine at the site of the bite and then made an incision, hoping to let out any venom which might be there. All the patients recovered uneventfully, though copperhead-bit patients suffered very severe pain for many hours. The boy, who probably had been struck by a non-venomous snake and suffered only from the trauma, who had been bitten one evening, seemed well by morning.

The first case (seen in consultation) occurred before we had any neoarctic, anticrotalic antivenine available locally, in the usual liquid form. It happened that I had an old snake-bite kit with some dried serum put up by the Pasteur Institute, that was supposed to be given dissolved in distilled water. It was, of course, in a sealed sterile tube. The doctor in charge of the case knew that I had it and knew of my interest in snakes, so called me. I think it took nearly an hour to get that serum to dissolve in the water! However, that was 30 years ago. Nowadays, I understand, such dried products are more soluble.

There are only 3 classes of venomous snakes in piedmont North Carolina: the copperhead (commonest), the rattlesnake, usually the timber rattle (next commonest), and the water-moccasin (relatively uncommon). In the swamps of eastern North Carolina the moccasin is commoner than here, and in the far southeastern part of the state a few coral snakes have been found. The venom of the first three is counteracted by neoarctic, anticrotalic serum, but a special serum is required to counteract the neurotoxin of the coral snake.

What Can a County Medical Society Do With An Extra \$500 Annually?

A few years ago a member of the Adams County, Illinois, Medical Society (membership 60) set up an irrevocable trust (Foundation) for his Society; he has since contributed to it so that the income is now over \$600 annually. The principal must be held intact, and not to exceed 80 per cent of the income may be expended annually, so the Foundation must grow. The Trustees are empowered to use the funds "to sponsor or undertake one or more things of a charitable, scientific, literary or educational nature" and "which will bring public and professional honor and respect to the medical profession." The Trustees know of no other Foundation that has been set up like this one and they earnestly seek counsel. Ideas from any one willing to proffer them, addressed to the President, will be appreciated and given thoughtful consideration.

Further particulars relating to the Foundation may be had by addressing Dr. Ralph McReynolds, President, Swanberg Medical Foundation, 1101 Maine St., Quincy, Ill.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

THE AMERICAN PSYCHIATRIC ASSOCIATION

IN MAY, 1944, the Association held its centennial meeting in Philadelphia, where the Association was organized in 1844. No other of our national medical organizations is quite so old, and so spacious in geographic scope. The Association embraces Canada as well as all of the states of our Union.

During the last week in May, just passed, I attended at the Palmer House in Chicago the one hundred and second annual session of the Association. Because of the war-time condition of our country and of Canada, no meeting was held in 1945. I believe the Civil War nullified the annual meeting in 1861, and that no meeting was held in 1847.

The record of the Association is long and honorable. In spite of frequent criticism of psychiatry, much of it deserved, some progress has been made in the understanding of mental diseases and of mental abnormalities, and no little of the progress can be traced back to the unceasing, quiet, unheralded labours of devoted members of the American Psychiatric Association. In 1864, at the annual meeting in Washington City, for example, Dr. John P. Gray, Superintendent of the State Hospital at Utica, New York, reported what he looked upon as pellagra in a patient in his hospital. And Dr. Pliny Earle, of Massachusetts, was reminded by the report that twenty-five years earlier the disease was demonstrated to him in many patients in the mental hospitals in Milan, Italy. Those observations of Dr. Gray and of Dr. Earle were published in the current medical literature, but they became lost, even to psychiatrists.

The presence of pellagra in the South was noted in a brief statement by Dr. James T. Searcy, Superintendent of the Alabama State Hospital System, in the *Journal of the American Medical Association* in mid-summer, 1907. My acquaintance with Dr. Searcy's report in that year enabled me to make the diagnosis in retrospect in a young man whom I had treated in 1906. Had I been familiar with the reports of Dr. Gray and of Dr. Earle, made in 1864, I should have made a correct diagnosis of the malady that terminated the young man's life. Had I made the diagnosis, had I been able to give the young man nicotinic acid, and had I fed him generously, he would probably be alive

today. History teaches. Ignorance is always cruel, but especially so in the domain of medicine. Knowledge acquired too late cannot reanimate the dead.

Dr. Karl M. Bowman presided over the four-day session in Chicago. He occupies a large place in the domain of psychiatry in California. There is probably no other physician in our country whose training and experience in all the phases of mental hygiene have been more thorough and ramifying than those of Dr. Bowman. He is a native of the mid-west; he was educated in his native region and also in the east; he is now active in multitudinous ways in the progressive life of the great state of California.

Much of the program at the recent meeting was devoted to the consideration of what may be called military, or combat, psychiatry. Psychiatrists were at the meeting to report on their own observations of themselves and of others in the thick of fighting—on land, on sea, beneath the waves, and in the air far above the earth. The fighting man was called upon to respond to injuries to his body, to emotional perturbations such as he had never before experienced, and to mental actualities and potentialities. The fears engendered by man's hostile fellow-man would seem to be more terrifying than those dangers that arise from the disturbances of nature—earthquakes, tornadoes, tidal waves and typhoons. There would seem to be no reason for doubt that man is man's deadliest enemy. Yet hope lives and peace conferences convene.

Psychiatrists no longer spend their lives within the walls of insane asylums and limit their practice to the so-called insane. The first presentation of the program related to psychiatry in industry. The psychiatrist is interested both in the quality and in the quantity of the labour of the normal individual. It may be possible even for the efficient worker to do his work more efficiently; and for the inefficient worker to learn to do his work well. Psychiatry is interested in normality as well as in abnormality. One interesting paper set forth a study of neighborhood quarrels. There was a lively discussion of the relationship of duodenal ulcers to emotional states. Five papers in one section were devoted to a consideration of the constitution and heredity of the individual. Another section presented the aims and hopes of the work of the Veterans' hospitals. The program of another section presented papers dealing with various aspects of the convulsive disorders. The juvenile delinquent was considered.

I was impressed by the almost complete absence from the program of all references to syphilis. Only a few years ago chronic syphilis and the psychoses were spoken of so often in association that it was scarcely possible to separate them in thought. But paresis occupied a small portion of the program of

the meeting. Did I hear pellagra mentioned? I wonder. Yet pellagra was the main theme of psychiatric thought, certainly in the South, not many years ago.

Certain features of the meeting were out of accord with the traditions of the Association. Never before had I heard at any meeting of the Association so many references to money and to its puissance. The inference was unavoidable that an employee's intellectual capacity could be doubled or tripled by a sufficient increase in wage or in salary. Money was in the saddle in the talk of the meeting. Although the strike of rail men kept many members from reaching Chicago, I heard not infrequently the opinion expressed that the strike is a splendid instrument of the new democracy.

Alcoholism occupied a small place on the program. I saw few doctors who manifested evidences of having indulged themselves in beverage alcohol. Dr. Karl M. Bowman, in his Presidential address, stated that about two hundred and fifty millions of dollars are spent annually in the United States in caring for the mentally sick in hospitals. About seven billions of dollars are spent by the people of our country each year for alcoholic beverages. The latter statement is rather too large for the financial division of my psyche to grasp. I believe that Dr. Bowman suggested that a small percentage of the purchase price of such beverages might be segregated and sanctified for use in the treatment of alcoholic patients. Such a method of treating and of eradicating alcoholism evokes recollection of the homeopathic dictum—similia similibus curantur—the hair of the dog is good for the bite.

In May, 1947, the Association will meet in the Pennsylvania Hotel in New York City under the Presidency of Dr. Samuel W. Hamilton. Dr. Winfred Overholser, Superintendent of St. Elizabeth's Hospital in Washington City, will assume the Presidency in 1948, and the annual meeting will be held probably in Canada. Dr. Leo H. Bartemeier, of Detroit, becomes Secretary and Treasurer of the Association, in succession to Dr. Winfred Overholser. So many members has the Association and so large has the attendance become at the recent meeting that it will soon be impossible for the annual meetings to be held except in our largest cities. And that is cause for regret.

At the meeting I saw two psychiatrists from South Carolina, two from North Carolina, and twelve from Virginia.

the mortality rate has been reduced to zero, at least in these first 15 cases. It is considered likely that penicillin alone would give equally fine results.—Major E. W. Bolland et al., in *Proc. Staff Meet. Mayo Clinic*, May 15th.

DENTISTRY

J. H. Guion, D.D.S., *Editor*, Charlotte, N. C.

OTOLARYNGOLOGIC-DENTAL CO-OPERATION

THERE IS much general talk about the need for coöperation between physicians and dentists, very little that goes into detail. King's article¹ is an exception. He says in substance:

The father-son relationship of the medico-dental groups is seen most fully in the otolaryngologic area. Let us see what duties we owe each other, what diagnostic and therapeutic advantages we owe each other, what diagnostic and therapeutic advantages we may give each other, and what joint aids we may contribute to human comfort and welfare.

Overgrowth of the pharyngofauzial lymphoid structures deprives the nasopalatal region of its proper air stimulus and increases liability to mass infection. A high and narrow palate causes a crowding forward of the premaxillary bone with crowded dentition. In such cases it is the obligation of the family physician or pediatrician and the nose and throat man to see that early correction is made. In many cases adenoids should be removed in the first few weeks and without anesthesia. The tonsil-adenoïd operation has been reported as early as seven months. The possibility of recurrence should not defer the procedure.

In the older child and in adults we often encounter carious teeth, gingivitis, alveolar abscesses and dental cysts. These patients should be firmly referred to the dentist for treatment.

The question arises as to who should remove the damaged deciduous teeth so often found at the time of tonsillectomy. In many cases these are so loose that they are practically extracted by the introduction of a mouth gag. In others there are complications in the form of alveolar infection, and in still others the mother wants a dentist called for the purpose of extraction. Through the war years the dentist's day has been filled with appointments and it has been difficult for him to leave his work at the time the operation is scheduled. Also proper is the question of the propriety of extracting permanent teeth during the general anesthesia of a tonsillectomy.

A joint responsibility arises when teeth encroaching on the maxillary sinus are extracted. In many of these cases a direct opening is left. Most of them heal without trouble provided a clot is formed and

¹ J. H. V. King, Morgantown, W. Va., in *W. Va. Med. J.*, May.

PENICILLIN constitutes the most powerful remedy at hand for the prevention or control of the serious, potentially fatal complications of agranulocytosis. The mortality rate from this disease, untreated or inadequately treated, has been 70 to 75 per cent; the mortality rate when the disease was treated intensively by leukopoietic agents was still 35 per cent or more. With the added use of penicillin

probing and packing are omitted. A single standing molar in the maxillary region presents a problem. Removal of a part of the sinus wall in such cases constitutes a complication which is to be avoided.

Cases in which a root apex has been lost in the sinus are not rare. The dentist should be given a clean bill of health and the presence of the bit verified by x-ray, when its removal intranasally should be simple. Dentigerous cysts opening into the sinus are a joint problem and should be so handled.

In fractures of the maxilla the dentist has contributed largely and often. Construction of dental splints is his function. The least we can do is to have a dental consultant in all these cases. As they are cared for, at least in our section, by the general surgeons, this paragraph may be taken by them as a gentle suggestion.

Fracture of the mandible should be almost entirely a dental assignment. The many cases in which facial deformity and malocclusion are seen after a broken jaw could thus be largely avoided.

Aid may be given by the dentist in many cases of otalgia, tinnitus and deafness.

Deafness and tinnitus may be due also to mal-position of the temporomandibular joint. This articulation is affected by malocclusion and by changes in the angle due to extractions with consequent atrophy of the alveolar bone.

A case of earache increasing in severity until nightly sedatives were required is reported. Pain radiated to the occipital and temporal region. This case proved to be one of malocclusion, and when a 4-inch bite-block was fitted, the symptoms disappeared. A case of unilateral ear and mandibular pain due to childhood injury was relieved following the removal of an impacted third molar and fitting a bite-block.

One of the more frequent conditions encountered by the otologist and the dentist is fusi-spirochetal infection. The diagnosis is easy to make. However, diphtheria-streptococcal membrane and even syphilitic mucous patches should be borne in mind. The purely dental cases are found as a specific gingivitis of considerable intensity, often producing such pain and sensitiveness that food is neglected. In these cases a thorough scaling of the teeth must be done as a part of the treatment. A serologic test for syphilis should be made. The possibility of an oral or faucial primary lesion should be considered.

Maxillary and dental malignancies are seen frequently. The diagnosis and treatment in these cases are usually a joint concern.

A closer and more expanded bond between the otolaryngologist and dentist should insure better care for our patients and greater satisfactions for both professions.

PROCTOLOGY

RUSSELL BUXTON, M.D., *Editor*, Newport News, Va.

FISTULA-IN-ANO

FISTULAE are fairly common. As far as can be determined, they most often occur as a result of some injury to the mucosa of the rectum resulting in abscess-formation which extends through the fat and muscle layers and opens into the skin. The patients are ordinarily seen when ill from a large perianal abscess. At this time, treatment is incision and drainage of the abscess. It is wise to pack the wound and keep it open as long as possible to give the patient a good chance of cure. Unfortunately, this is not often accomplished; in many cases a draining sinus results. When the skin opening of this sinus closes over, another abscess is produced. For this reason, one does well to keep these patients under observation after an abscess has been incised so that when the opening closes it can be reopened.

Any time after the acute inflammation has subsided, the fistula can be cured by opening up the sinus tract from the external to the internal opening. This is ordinarily accomplished by inserting a grooved director into the external opening, following the sinus until the internal opening is discovered, and making your incision without regard to the muscles involved unless the internal opening is high in the rectum. In this case, a seton can be used and the sphincteric control can be maintained. It has been found necessary to use a seton very rarely. After the sinus tract is laid open, the granulating tissue can be removed with a curet and the opening packed with vaseline gauze. If there are overhanging edges of skin or mucosa, these should be trimmed.

The patient may be discharged from the hospital in a few days but should return for repacking and digital dilatation of the rectum every two to three days until the entire tract is healed. The granulating area may be cut down after ten days by the use of silver nitrate. Hot baths, the generous use of mineral oil and local application of vaseline help to keep the patient comfortable. The patient is advised not to attempt heavy labor or sedentary work until there is no longer discomfort when sitting down.

The end results of treating a fistula by laying it open depend entirely upon whether or not the internal opening is found and destroyed. If this is done, these patients practically always get well.

AUSCULTATION OVER THE JOINTS

(A. Galambos, New York, in *Medical Record*, March)

Crepitance or rubbing tactile sensations felt over the articular surfaces, while in motion, may denote a dry, non-effusive, inflammatory condition in the joint. The recognition of such a state is easy as a rule.

The stethoscope, placed over the knee or the shoulder or occasionally over some other joint, while in motion, will enable one to detect these changes at an earlier stage, in a milder form of the disease, in a far greater number of cases, and in a more convincing way than hitherto has been the case through palpation.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

TREATMENT OF EPILEPSY TODAY

EPILEPSY, we all agree, is a symptom-complex characterized by the periodic occurrence of transient disturbance of consciousness, with or without convulsive movements. The disturbance of consciousness may be so slight that it cannot be detected by casual observation even though convulsive phenomena may be present. Recurrent loss of consciousness may occur in conditions not epileptic. It is erroneous to state that the seizures of patients with symptomatic epilepsy are due to an organic lesion in the central nervous system which may happen to be present. This lesion is constantly present but the fits are irregular in occurrence. Furthermore, a brain lesion may be present in the patient with idiopathic epilepsy. We can only say that our methods of examination fail to reveal such a lesion.

In recent years there has been much claimed for newer drugs in the treatment of epilepsy. Many of these drugs have since lost much of their popularity. Merritt¹ fairly states the case:

Some patients have only one type of seizure, but it is rather common for the afflicted individual to suffer with two, or even all three types of spells: 1) petit mal, 2) grand mal (including Jacksonian), and 3) psychic equivalent or psychomotor attacks.

Petit mal, a disease of childhood, is characterized by clouding of consciousness for a few seconds, with or without minor movements of the head, eyes and extremities, and loss of muscular tone. A grand mal attack is ushered in by a warning (aura) followed by a sudden loss of consciousness with tonic-clonic spasms with or without urinary and fecal incontinence. Psychic equivalent, or psychomotor attacks are terms used to describe a group of epileptiform disturbances which do not conform to the classical grand-mal or petit-mal types of seizures. The milder psychomotor attacks differ from petit mal in that there is longer duration of mental cloudiness and muscular movements much more widespread. In the severer form of psychic equivalent the mind may be in a clouded state for many hours and the patient may perform acts of which he is entirely unaware.

The treatment aims at: 1) elimination of the factors important in producing attacks, 2) general mental and physical hygiene, and 3) therapy

directed toward elevation of the convulsive threshold.

1) This means the elimination of any abnormal factor discovered in the examination of the patient, as removal of operable tumors or abscess of the brain, treatment of infections or endocrine abnormalities, correction of physical defects.

2) It is only rarely that treatment under "1)" will cause disappearance of attacks; the vast majority of cases require control of hygiene and the administration of anticonvulsive remedies. The period of treatment in the majority of cases is years or a lifetime. Patients must be encouraged to use all of their resources to overcome their feelings of inferiority. Adults should occupy their time with remunerative, productive work. Children should be kept in school unless the frequency of attacks greatly disturbs the routine of the class room, or unless mental deterioration requires special facilities. Excessive attention and oversolicitousness on the part of the family should not be allowed.

Alcoholic beverages are to be prohibited. Parties, dancing, movies, and so on, should be encouraged. Dangerous sports can be permitted when there are proper safeguards. Driving of automobiles should be prohibited. Commitment is not desirable unless mental deterioration or violent or frequent attacks not controllable by treatment make it necessary. Deteriorated, destructive or dangerous patients should not be kept at home and allowed to ruin the lives of other members of the family.

3) The most effective method for the control of seizures is the use of phenobarbital, phenytoin sodium (dilantin sodium) and bromides. Other forms of treatment such as the ketogenic diet and dehydration have been discarded by most physicians.

If satisfactory results are not obtained with one of these drugs, the others should be tried. In some cases a combination of two or more of the drugs will yield much better results than the use of one; dose must be determined by trial-and-error. One drug may have been discarded as useless whereas a slight increase in dosage would have resulted in a complete disappearance of all the attacks.

Phenobarbital is first in the treatment of patients with infrequent grand mal seizures. If satisfactory results are not obtained give dilantin sodium. A combination of the two is often most effective. *A full therapeutic dose of each drug must be used.* In patients with frequent grand mal seizures or attacks of the psychic equivalent or psychomotor type, dilantin sodium is the drug of choice. The treatment of petit mal attacks in children has not been standardized as yet.

Ordinary adult dosage of phenobarbital is $1\frac{1}{2}$ grains daily at bedtime for two weeks, increasing

¹ H. H. Merritt, New York, in *Cincin. Jl. of Med.*, May.

to $4\frac{1}{2}$ to 6 grains a day. Further increase will not be of value. Children tolerate and require almost as large a dose of phenobarbital as adults.

Phenytoin sodium (dilantin sodium), particularly valuable in the treatment of psychomotor and grand mal attacks, has the advantage over phenobarbital and the bromides of having little or no hypnotic action. The regulation of the dosage is more difficult, however, and minor toxic symptoms are more frequent, though toxic symptoms are not serious and it is almost impossible for a patient to take a fatal dose.

For an adult, the initial dose is $1\frac{1}{2}$ grains, t.i.d. If any seizures occur after two weeks of this dosage, increase to 6 grains daily. Further increases by increments of $1\frac{1}{2}$ grains may be made until the maximum dose of 9 grains daily is reached. In the majority of adults, 6 grains is the optimum; in children over 12 the average is $4\frac{1}{2}$ to 6 grains; in younger children 3 to $4\frac{1}{2}$ grains—in divided doses through the day or in one dose at bed time. The drug may cause gastric upsets—to be prevented by giving along with the meal.

The toxic symptoms of dilantin sodium are early nervousness or sleeplessness, rather than drowsiness, gastric distress, unsteadiness of gait, hypertrophy of the gums, dermatitis and psychotic symptoms. This swelling of the gums can be retarded by daily massage.

Combination of dilantin sodium with phenobarbital or bromides must be worked out according to the tolerance of each patient. Three to five doses a day of $1\frac{1}{2}$ grains dilantin sodium, with $\frac{1}{2}$ grain of phenobarbital, or 15 grains (1 gram) of sodium bromide, are usually required in the more resistant cases.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

THE COMMON CARDIAC CRISES AND THEIR MANAGEMENT

BAER¹ has definite ideas about what should be done in different kinds of cardiac crises. He evidently does not accept as fact everything he reads, as the following synopsis will show.

The crises most frequently encountered are: Acute congestive failure, the arrhythmias, and thyrotoxicosis.

In acute congestive heart failure we aim to aid respiration, to overcome the congestion of blood in the abdomen, and to support the heart. Respiration may best and most quickly be aided by propping in a semierect position or placing him upright in a chair, with the arms supported and the feet

¹ A. T. Barr, Cherry Valley, in *Jl. Ark. Medical Soc.*, May, 1945.

elevated. A wide, tight abdominal binder is efficacious in combatting the passive congestion.

The support of the heart depends upon the cause of the attack. If due to avitaminosis, the indications are caffeine and vitamin B intravenously, easily digested vitamin-rich foods and glucose, and one of the xanthine group by mouth as soon as it can be safely administered. If due to infection, the treatment is the same, except that there is not the urgent need of the vitamin. If due to circulatory lesions, digitalis is the remedy in average initial dose of 1 c.c. intravenously. Do not subsequently overdose. Be satisfied with slow but continuous improvement.

In a far-advanced fibrous degeneration digitalis will produce fibrillation and death. Nurse, nourish and rest the patient. Any stimulant should be very cautiously employed.

In all of these congestive failures morphine will probably be indicated to allay the distress and procure rest. Do not hesitate to use it. And, keep the patient warm.

The arrhythmias: An occasional auricular or ventricular extrasystole may well be disregarded; but auricular flutter or fibrillation, or paroxysmal tachycardia, either auricular or ventricular, may terminate the patient's life through exhaustion of the myocardium if not controlled.

Paroxysmal auricular tachycardia may yield to pressure on the right carotid tubercle, pressure on the root of the neck on the right side, pressure upon the eyeballs; or having the patient bend over, at the same time holding the breath in extreme exhalation, may terminate an attack. An ice-pack upon the precordium is effective in many cases. When these simple means fail I have found quinidine effective—3 grains q. 4 h. intravenously at first.

For auricular flutter the first remedy is an ice-bag over the precordium. The second is quinidine, which acts by slowing the auricular rate through direct action upon the sino-auricular node, while it reduces the refractory period of the auriculoventricular node and bundle, so increasing the ventricular rate. This may permit a synchronization of the auricular and ventricular rates, after which the heart will slow down as a whole. Should the ventricular rate be accelerated alarmingly it may be controlled by adding digitalis to the treatment. Digitalis alone, we are told, may convert flutter into fibrillation, following which a normal rhythm may be restored. But, the fibrillation may produce sudden death. Barr says he has never had the courage to try this method of treatment.

Auricular fibrillation: try to control by an ice-bag over the precordium with quinidine intravenously. The pulse is very small and irregular and the condition is alarming. Relax the patient with

morphine; keep him in a horizontal position, or with the head low. Apply heat to the body to maintain warmth.

Heart block: in the first stage, that of an occasional missed beat; or the second stage, that of 2:1, 3:1, or 4:1 rhythm, all that can be done is to safeguard the patient against exertion, fright, anger, or excitement. The pulse is low, full and forceful. Systolic pressure is increased, diastolic decreased. The pulse resembles the pulse of aortic regurgitation but falls less fast. In the third stage, that of complete dissociation, there is still nothing to do more than to keep the patient quiet and promote his comfort. The treatment is ultra conservatism.

Paroxysmal ventricular tachycardia: there is little to do. Apply an ice-bag over the precordium and give morphine (or hypnotics) for rest. Forbid tea, coffee, tobacco and alcohol.

Coronary spasm and occlusion: The first indication is for care in differentiation. If occlusion is erroneously diagnosed as spasm and nitrites administered death may result. But if morphine is given, and the condition proves to be only spasm, or angina pectoris, no harm has been done. However, if the condition proves to be embolism, a great deal of good has been done: the most effective remedy has been administered early. Continue it to the accomplishment of complete relaxation. Apply an ice-bag to the precordium and heat to the body. Artificial respiration may save a life that would otherwise be lost. Continue complete bed rest.

Thyrotoxicosis is the one crisis in which the treatment is anything but conservative. Moments count. The indications are: large doses of caffeine sodio-benzoate intravenously, combined with coramine and adrenalin, repeated until response; glucose intravenously, and artificial respiration long continued. Apply a hot water bottle to the precordium, and heat to the entire body.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

THE HOSPITALS' RESPONSIBILITY TO THE PUBLIC

THE MIND of man has progressed along every other line; why not along the line of hospital administration responsibility to the public? True there could be no hospital without the medical staff, but neither could there be hospitals without the public. Therefore, it behooves the operators of the hospital to consider their responsibilities to both sides.

This paper will be confined to the responsibility of the hospital to the public; which responsibility can be divided for the most part into three

branches: the professional efficiency of the physicians, the professional efficiency of the nurses, and the professional efficiency of the dietary department. In former contributions we have dealt with nursing and dietary efficiency. So we will narrow our discussion to the hospital's responsibilities to the public in regard to the efficiency of the medical staff.

In the main, hospitals have two types of staff members to contend with; those who are cooperative and loyal and those who are not. Hospital administrators would certainly be happy if there were none of the latter group. But since there are, it becomes necessary to deal with them. And, in the opinion of the writer, it will be necessary in the very near future for some concrete rules to be put into force. If it is a good thing for one doctor to have special training in a certain field before he is allowed to practice as a specialist in that field, then it is a good thing for all doctors to be especially qualified in some branch of the medical profession before they are accorded the privilege of practicing that specialty in the hospital.

It would not take a superman on the Board of Trustees, on the Executive Board or as Hospital Administrator, to realize this fact. Therefore, if it is a good thing for Dr. A and Dr. F to thoroughly examine their patients and record their findings in the form of a history and a physical examination, then it is also a good thing for Dr. B and Dr. D to do the same thing. Then, if it is a good thing for staff members to do certain things, why should the hospital not require these things to be done before the doctor is accorded prestige and privilege of practicing in any department in that hospital. The answer would be, It should be done. The alibi is, It is hard to discipline doctors. This, I admit, is a problem. But it was also hard to discipline Sergeant York when he was first called to the colors. There was a responsibility upon the shoulders of the American officers to serve the American people which they did not take lightly. As a result, Sergeant York became one of the most valuable defenders of democracy, and he emerged from the army a good and true soldier. It is my belief that the reason Sergeant York was disciplined was because there was not in the mind of his superior officers, and others responsible for his conduct, a fear complex.

A fear complex is the strongest weapon that failure ever possessed. The creator of destruction and despair never fails to ring this message in the ears of mankind. Yes, it is true that Sergeant York might have refused to accept Order No. One, Number Two, or Number Three, and he might have had to be placed in solitary confinement. But this did not dominate the minds of those whose responsibility it was to effect the discipline.

It is true that every person is to be given opportunity to develop his talents in this country of democracy; but not without efforts being put forth on his part to show himself worthy of the opportunity. And it should be the earnest desire of all who are responsible for the conduct of their fellowman to see to it that all requirements of becoming worthy of responsibility are within the reach of as many as it is possible to make it. But once this opportunity is granted, there should be no sliding backwards on the part of requirements.

So far as the hospital is concerned, every doctor who is ethical and honest and sober should be allowed the privilege of becoming a staff doctor. But if he does not choose to avail himself of that opportunity of paying special attention to medical meetings; to post-graduate courses; and especially staff medical meetings; then those responsible for the operating of the hospital should have no feeling of remorse if he is not accorded privileges of the hospital; because they are not responsible for his failure to be worthy of the opportunity.

On the other hand, hospital authorities do have a very definite responsibility to the public in accepting any doctor into the staff membership group where he will have an opportunity to enjoy the privileges and practices of a member of the staff of the recognized hospital. I am afraid that that responsibility is too lightly taken by hospital authorities. And I am equally sure that most hospitals, once they have accorded staff membership to a physician, are exceedingly neglectful in their duty to see that this staff member continues to be worthy of his membership.

Hospitals are operated for the treatment of the sick. It is stated in the charters of most of the hospitals that they are "non-profit" institutions, which means to say that the main purpose of their existence is service to humanity—sick humanity. This they do very well in most instances in the eyes of the citizens of the community. The writer is forced to admit, however, after thirty years in the hospitals, that if the citizens knew the whole truth there would be a hue and cry for more protection for their lives and the lives of their loved ones. The average citizen is not so well qualified to pass upon the professional qualifications of a doctor as are hospital authorities. If they are worthy of their appointment as hospital trustees, directors or administrators, it is their business to investigate the professional training and conduct of the staff doctors before they are given the privileges of the hospital. This is the first step, but by no means the last. This simply gives the information that the party has made himself worthy to become a member of the staff. It does not mean that he is going to coöperate with the hospital authorities in helping to maintain a hospital of high stand-

ards and in helping to save lives by being thorough and conscientious.

Therefore, it follows that hospital administrators should operate without a fear complex, and that the monthly conduct of each and every staff doctor should be analyzed and if he falls short of doing his best, then he shou'd be talked with in the nicest and kindest manner and in a private conference. If, however, he refuses to accept constructive criticism designed to do as much for him as it is going to do for the hospital and the public, then this practicing doctor should be denied further hospital privileges until such time as he can realize that the hospital authorities have a responsibility to the public through him; and that unless he bears his part of this responsibility, then the patients of that hospital are going to suffer and many, perhaps, lose their lives.

For the most part it has been definitely decided by men of high professional attainments that a good ethical doctor should, by all means, take a history and make a complete physical examination, and record on the patient's chart upon the admission of the patient or within a very short time thereafter. The public has a right to expect that their hospital will appoint those to staff membership who are ethical, who are well trained, and who are loyal to both hospital and patients. This is basically right, and the United States Supreme Court has held that the hospital authorities are responsible to the public for the conduct of those who are given the privilege of practicing in the hospital.

My plea to the hospital administrators of this country is that they be fair and be firm. Require as little as you can of your doctor but require that which is right, and without fear or favor; minister to the sick through the hospital and staff members a service worthy of your ability and the opportunity, and think not first of your job but first of your responsibility. And if you by chance have been inoculated with the fear complex serum, get down on your knees and ask Almighty God to take it away from your nature and give you a *firm conviction*.

UROLOGY

RAYMOND THOMPSON, M.D. *Editor*, Charlotte, N. C.

THE PRESENT STATUS OF CARCINOMA OF THE PROSTATE

TWO IMPORTANT facts about this disease are its frequency and the infrequency of its diagnosis while it is still confined to the prostate. The pathologist places its incidence at 17% in all men over 50 years of age and 29% in men over 80 years of age. The clinician finds that carcinoma of the

prostate is the cause of difficulty of urination in 20% of men hospitalized because of this difficulty.

The foregoing paragraph brings immediately to mind the importance of this subject. Quinby's¹ excellent article goes on to make other important points.

Prostatic carcinoma is diagnosed early in only a minority of cases because then it either causes no symptoms or painless frequency only. In many cases the complaints which bring the patient to the doctor for the first time are those caused by distant metastases such as pain in the back, sciatica, or general ill health and weakness. The only curative measure, prostatectomy, is then out of the question.

Recognition of the disease at an earlier stage may be furthered by examination of the prostate as a routine in all men who have reached the age at which the disease is likely to occur.

At each rectal examination the physician may note by digital touch the size, shape and consistency of the prostate and these should be compared mentally with the normal. Careful attention should be given especially to the consistency of the gland. Normally this can best be described as tense or elastic, which for purpose of illustration is very much like that felt on palpating the strongly contracted biceps of one's arm. Carcinoma forms as hard areas either affecting the whole gland or more often appearing in irregular areas of its surface. In many cases this induration is so great as to be stony on touch. The gland as a whole is often enlarged or of an irregular contour. The normal shallow furrow extending upward from the apex may be obliterated and the depression or notch at the base between the seminal vesicles may be occupied by new growth and thus no longer to be felt. The prostate as a whole is normally slightly movable. This mobility may disappear due to carcinomatous infiltration.

Increased induration may be due to other causes, but less commonly. In case of any doubt, a biopsy should be made. This may be done by a hollow needle or by exposure of the posterior surface of the prostate at operation. Inasmuch as total prostatectomy is the only measure which holds out hope of cure, every effort should be made to make a diagnosis of carcinoma at an early stage and as a means to this end the biopsy is always of the greatest importance.

In recent years chemical determination of the enzyme phosphatase in the blood serum has become important in the study of prostatic carcinoma. The elaboration of this factor is above normal in the presence of carcinomatous cells, especially when metastases are present. Röntgen

studies of the pelvis and lumbar spine also assist in the search for metastases.

Since total surgical removal of the prostate is in many cases impossible by the time the patient is first seen, due to extension of the growth, castration is generally well worthy of use for its inhibiting effect on the progress of the neoplasm. Although the cancer is not cured, the improvement in the general health of the patient and the frequent relief of pain obtained justify orchidectomy. The use of stilbestrol (female hormone) is advised thereafter. Orchidectomy is not advised for patients in whom total prostatectomy can be done, until a rise in the serum phosphatase suggests recurrence of the growth.

When prostatic carcinoma is accompanied by bladder obstruction, transurethral resection combined with castration is recommended.

Seldom has the editor of this department run across so well-balanced a presentation of the subject of prostatic cancer. All of us need to be reminded daily of the urgent need for suspecting any prostatic trouble to be due to cancer, for making careful rectal examinations almost as a routine in investigating the health of men, and of having biopsy examinations done on even a suspicion.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M.D., *Editor*, Charleston, S. C.

PENTOTHAL SODIUM IN TONSILLECTOMY ANESTHESIA

EFFICIENT anesthesia for tonsillectomy has always been one of the most difficult of an anesthetist's tasks. Two years ago the author¹ began to use pentothal routinely for tonsillectomy, at first as a preliminary induction agent for inhalation anesthesia, then gradually altering the technique until pentothal has become a predominant agent throughout the operation.

The routine as he has worked it out is this:

Premedication consists of: nembutal gr. 1½ the night before operation, repeated in the morning 1½ hours preoperatively, followed by morphine gr. ¼ with atropine gr. 1/75, for husky men, or morphine gr. 1/6 with atropine gr. 1/100 for women or less robust men. The hypodermic injection is administered 45 minutes before operation.

The pentothal set-up he describes as simple but effective. Narrow-bore tubing extends from the site of venipuncture to the patient's head, with Luer-lok connections at either end for needle and 20 c.c. Luer-lok syringe. This enables the anesthetist to be at the head of the table at all times. The arm is strapped to the patient's side. Rapid induction

1. Wm. C. Quinby, Boston, in *Bul. New England Medical Center*, 7:209, 1945.

1. Flight Lt. D. W. Whyte, R.C.A.F., in *Cur. Res. Anes. & Analg.*, Mar.-Apr.

with 5% solution of pentothal has proved most satisfactory. As soon as the initial 3-5 c.c. of pentothal has been given nitrous oxide-oxygen in normal anesthetic concentration is given for 2-3 minutes, closed ether is gradually added, using the re-breathing, carbon dioxide absorption technique. Small quantities of pentothal are injected at intervals throughout this period. This short administration of gas-oxygen smooths over the period of coughing and spasm, which would occur if the closed ether method were used at the beginning.

In the majority of cases the patient is ready for intubation within 5-6 minutes of the time of initiating induction, and the total dosage of pentothal used up to this time is .5 to .75 Gm. After this administration of pentothal-nitrous oxide-oxygen-ether the depth of anesthesia is sufficient to prevent any laryngospasm when the tube is inserted. The nasotracheal method of intubation is used to allow the surgeon more freedom for manipulation of his hands and instruments. A thin-walled, medium-sized, curved Magill tube is introduced, either under laryngoscopic vision, or by the "blind technique" described by Hudon.

The patient is ready for operation within 7-8 minutes after injection of pentothal. Anesthesia is maintained with small intermittent amounts of pentothal, while a continuous flow of either pure O₂ or N₂O-O₂, 50-50 mixture, is kept up throughout the operation. If the tonsillectomy proves to be particularly prolonged and difficult, a small amount of concentrated ether is given endotracheally, but this is rarely necessary. The total dosage of pentothal administered is 1.0, 1.25 or 1.5 Gm.

At the close of the operation the pharynx and trachea are thoroughly freed by suction of any remaining material. The endotracheal tube is left in position until the reflexes return and the patient is reacting strongly. This frequently occurs before the patient leaves the operating room. The patient is then placed on the stretcher, on one side or with face down.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

GOUT

GOUT seems to be coming back to its place among diseases of importance comparable to the place it held in the days of Sydenham. Maybe the high living of the recent years is responsible.

Anyhow, it is well to be on the lookout for gout, as it is much more amenable to treatment than is any of its simulators.

Forty-four of the patients on whom McCracken¹ keeps good notes were treated during acute attacks

with a colchicum preparation, usually colchicine. In 37 cases improvement was rapid, often dramatic. Pain was frequently abolished in 12 to 24 hours after the first dose of colchicine. Usually 0.5 to 1 mg. was given hourly for from four to eight doses. In only seven cases was there little or no benefit.

Cinchophen was employed in 14 cases and usually with striking benefit. It acted well in four acute cases in which colchicine had failed to reduce the pain. Usually from 1.5 to 3 Gm. of cinchophen was given daily for three or four days. In no instance was a toxic action observed. This experience indicates that the widespread fear of employing this drug deprives patients of a valuable remedy. It might be well to test the urine for urobilinogen frequently when a patient is taking cinchophen in order to guard against toxic action on the liver.

It is evident to McCracken that physicians do not realize that acute inflammation of the first metatarsophalangeal joint almost always means gout and should be so regarded and treated until proved otherwise. In few diseases is the pain so intense as in acute gout, and in none is a drug for its relief so effective as colchicum in gout. The failure of practitioners to use this remedy owing to their failure to recognize gout still causes a great amount of needless suffering.

OUT-PATIENT ELECTRIC CONVULSIVE THERAPY

IT LOOKS AS though shock treatment is of such benefit in a large percentage of cases as to be here to stay. Further, there appear no good reasons why the family doctor should not give these treatments in his office, allowing the patient to go, or be taken, home in a short time.

The equipment used is the Reiter Electrostimulator to induce a mild convulsion by delivering a smaller current for a little longer period of time than other types of apparatus. The average dosage is from 60-70 millamps and the average time 1 to 3 seconds.

Preliminary to the application of the treatment, at 11:00 a. m., the patient eats a light breakfast, and comes accompanied by a responsible relative or friend and to sign a permit blank. After bladder and bowel have been evacuated, tight clothing loosened and shoes removed, the patient lies on a rigid truck with a pillow under the lumbar spine for hyperextension. The electrodes are placed over the motor area, usually on the left side, one just above the ear and the other on the vertex. Salt jelly is then placed under the electrodes and a nurse with rubber gloves holds them in place. A second nurse is stationed by the upper, and a third by the lower, extremities to control excess motion.

¹ L. A. Senseman, Pawtucket, in *R. I. Med. J.*, April.

A mouth gag is placed between the teeth after all dentures have been removed. The current is then passed. There is usually a quick tonic phase, the body hyperextended, the arms and legs rigid, followed by a tonic-clonic convulsion lasting 60 to 100 seconds. The patient then becomes flaccid, r. shallow until deep breathing relieves cyanosis. With prolonged apnea artificial respiration is helpful. The patient responds to questioning in 3 to 5 minutes after the treatment; he may be confused, but rarely excited. Occasionally a patient vomits or has involuntary passages. Following the seizure he remains lying down for an hour. As a rule the patient is able to leave after 1 to 1½ hours, go home by automobile and remain quiet for the rest of the day. No complications were encountered in this series.

Best results were obtained in those who have received three to six treatments, these usually depressed patients.

Electric shock therapy can safely be given on an out-patient basis.

PEDIATRICS

E. L. KENDIG, M.D., *Editor*, Richmond, Va.

THE CELIAC SYNDROME

THE AUTHORS¹ have been interested in the celiac syndrome during the last three years because of the number of patients seen with steatorrhea. This report deals with 21 cases in which they were able to do all necessary diagnostic tests, to give treatment and follow the course.

Of the four children with fibrocystic disease two made chief complaint of chronic upper respiratory infection practically from birth. In two of these four children steatorrhea as well as respiratory infection was present.

The child with steatorrhea due to allergy had severe eczema almost from the time of birth, and was critically ill on several occasions with eczema, steatorrhea and dehydration. She developed asthma at the age of three years. The other 16 children had as their chief complaint steatorrhea only, varying from moderate to severe degree.

All the children had failed to gain weight on an adequate diet, and had loss of muscle tone, moderate anemia, and vitamin A and D deficiencies. For children under six years total stool excretion of more than 50 grams wet weight or 15 grams dried weight is beyond the limits of normal. It is assumed that the child tested is receiving a normal diet. A quantitative stool examination is time-consuming, is unnecessary and seldom done. Andersen's simple method of doing a qualitative stool fat test consists in examining under the low-power

¹ J. R. B. Tudor & E. S. Platou, Minneapolis, in *JL-Lancet*, May.

objective a small amount of stool into which a few drops of sudsan IV have been dropped. More than 4-5 droplets of fat per low-power field indicate an excess of fat in the stool.

A fairly accurate index of fat absorption from the small intestine consists in determining the amount of vitamin A in a fasting sample of venous blood, giving 50,000 units of vitamin A by mouth, and following this in three hours with another vitamin A determination on venous blood. In a normal individual the curve should rise 150 to 200 micrograms at the end of three hours. The results are impaired in cretinism, jaundice, ulcerative colitis, malnutrition and pneumonia, as well as in cases of steatorrhea.

Sugar tolerance curves in these patients are usually flat, revealing a deficient absorption of carbohydrate from the small intestine. In fibrocystic disease pancreatic trypsin and lipase are always markedly reduced or absent, and amylase is reduced or normal. In idiopathic celiac disease there are usually no changes in the pancreatic enzymes, except in case of starch intolerance, where amylase is reduced. The determination of pancreatic trypsin alone is diagnostic in fibrocystic disease.

Andersen's method for determining the amount of trypsin in the duodenal juice is so simple that it should be done in every case of steatorrhea. A duodenal tube is passed in the morning, following a 12- to 16-hour fast. When the tip of the tube is in the ascending or transverse portion of the duodenum, some duodenal juice will usually run out and can be collected. Discard all but alkaline juice. In fibrocystic disease gentle suction on a syringe is usually necessary to withdraw juice, for it is small in amount and sticky. The method of determining trypsin takes about half an hour to set up and requires no special laboratory training.

It is a simple matter to combine radiography with the removal of pancreatic juice. After sufficient juice is removed the barium can be injected through the tube and x-ray pictures can be made.

As all children with fibrocystic disease sooner or later develop chronic respiratory infection, chest x-rays may reveal pathology varying from markedly increased vascular markings to lobular pneumonia or bronchiectasis. In any case in which allergy is suspected, history and skin tests are of great importance.

No single test, with the exception of the determination of stool fat and pancreatic trypsin, is diagnostic of the celiac syndrome. Other tests offer confirmatory evidence.

Alternate injections of crude liver extract and parenteral vitamin B complex every other day for three weeks, continuing with oral vitamin B complex should bring improvement in three to six weeks. Most of these patients can resume a nor-

mal diet within six weeks, and the cure is usually permanent. Offer a high-protein and low-fat and low-carbohydrate diet during the course of the injections, and for three to six weeks thereafter. Oral synthetic, i.e., yeast-free, vitamin B complex gives the best results of an oral B preparation.

In this series of 15 patients with idiopathic celiac disease good to excellent results were obtained in all cases. The children in every way have developed like normal children. So far there has been no recurrence.

Every child who presents any features of the celiac syndrome should be investigated completely. The most reliable test is the determination of stool fat. A simple method of doing this test is described. The most valuable single test in the diagnosis of fibrocystic disease is the determination of pancreatic trypsin in the duodenal juice.

In idiopathic celiac disease the pancreatic enzymes are normal. The treatment of choice is the daily alternate intramuscular injection of crude liver extract and vitamin B complex for three weeks, followed by oral synthetic yeast-free vitamin B complex, given daily until improvement occurs. A high-protein, low-fat, low-starch diet should be followed during the course of treatment. Ventriculin, i.e., powdered hog stomach, in daily doses of 10 Gm. orally with 5 c.c. N 10 HCl has been suggested recently as a new treatment.

In fibrocystic disease pancreatic trypsin is markedly reduced or absent. Chronic pulmonary infection is characteristic of fibrocystic disease. Treatment is twofold. The diet should be high in protein and should contain added pancreatin to replace the missing trypsin. Large amounts of vitamins A, B, C, and D should also be given. The pulmonary infection may be treated with penicillin, both intramuscularly and intranasally in aerosol.

OPHTHALMOLOGY

THE GENERAL PRACTITIONER AND GLAUCOMA

ONE can hardly call attention¹ too often to the need for being mindful of glaucoma, for entertaining a suspicious attitude to its probable presence, for having a plan of action and promptly putting it into effect.

Glaucoma should not be considered as a condition which necessarily causes blindness. Uncompensated glaucoma, the acute or subacute form in which the diagnosis is easy—the intensely red eye with most of the injection about the corneoscleral junction; the dilated pupil; the shallow anterior chamber; extreme pain about the eye and immediate loss of vision. The compensated form will show minor or no symptoms. The pupil is normal

¹. E. W. Dyer, Indianapolis, in *Jl. Indiana State Med. Assn.*, May,

in size; the vision is probably fairly good, and there is no redness of the eye, and no pain.

Elevation of tension is not uncommon in other eye diseases. The most common ocular disease to produce glaucoma is iritis or iridocyclitis. Injuries to the eye or swelling of the lens due to a cataractous process or to trauma may act as a cause.

The noninflammatory type is insidious. Complaint is made of halos about artificial lights; "smoky" halos are noted by some. Other symptoms are transitory headaches, particularly temporal at night or during the early morning; dilated pupils beyond an average diameter of 4 mm.; shallow anterior chamber; slight injection of the small vessels adjacent to the limbus; and in the latter stages deterioration of vision.

Surgical intervention in these cases is to be considered only as a last resort. All foci of infection should be removed, the fluid content of the body kept at a minimum. Activities wherein there is excitement should be forbidden; sedatives should be employed judiciously.

The use of miotics must be varied at intervals as to type, frequency and concentration. Repeated examination of the visual field, tonometric measurements, ophthalmoscopic examination, and patency of the filtration angle will act as guides in the progress of the case. Every case of glaucoma should be kept under close scrutiny and supervision by both the ophthalmologist and the family physician. Any deterioration in the patient's physical condition will be detrimental to the ocular condition.

MALARIA—From P. 176

regular supplies are not available. But most important is the thorough awareness by high commands of the danger of relaxation of anti-malarial discipline at such critical junctures, and careful planning to ensure the continuation of the full prophylactic program under all the changing conditions of combat.

CONCLUSIONS

1. Atabrine suppressive treatment of malaria has proven of the greatest value in this war.
2. The standard dosage prescribed of one 1½-grain tablet daily, seven days a week, if rigidly enforced, will prevent all but a very few cases of clinical malaria, and many infections particularly with *P. Falciparum* may be permanently aborted.
3. Toxic symptoms are minimal and are far outweighed by the advantages of the drug.
4. A survey of an outbreak of malaria during the invasion of southern France illustrates the results of a breakdown in atabrine discipline and the need for strict enforcement of suppressive treatment during such operations.

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

THE STATUS OF THE GENERAL PRACTITIONER, PRESENT AND FUTURE

Two Arkansas doctors¹ have written on the plight of the general practitioner. In the late war, they say, promotion in military rank depended on the position occupied, and position in the professional field depended on specialty rating; so they ask, is it surprising that so many chose administrative, sanitary and field duties where promotion was not dependent on specialty training? Certainly physicians subjected to this system will emerge from the service feeling that there is a very high premium on specialty training, and the 11,000,000 soldiers can not have failed to be impressed that the unit surgeon, the Army's nearest approach to a family physician, was rarely allowed to treat him in quarters, had minimal equipment in his dispensary and when the patient was hospitalized specialists took over. If a soldier had complaints in two different body systems, almost invariably he saw two doctors. Is it unreasonable to expect that he may emerge with the impression that only specialists are capable of treating him?

Veterans Administration law provides a 25 per cent increase in base pay and original appointment at a higher grade for men certified by specialty boards. Eventually, all patients admitted to the hospital will be treated by specialists. General Hawley states that 19,000,000 men will fall under the care of the Veterans Administration. The families of these are likely to think as they do. If veterans have an average of three dependents, it is conceivable that 76,000,000 members of the American population may be indoctrinated with the concept that only specialists are capable of treating patients.

The Pepper bill now before Congress would perpetuate the maternal and infant care of the Emergency Maternity and Infant Care Program for all families. A committee from the advisory board to the Childrens Bureau recommended that only certified specialists be allowed to participate in this program.

In the medical teaching centers where our students, interns and residents are trained and where so many of our low-income group receive their medical care, each patient is seen in a specialty clinic or admitted to a specialty service. All cases, including the most trivial and routine cases handled daily by the general practitioner in private practice, are treated by specialists or under the supervision of specialists. The teacher of medicine who shows his contempt for the general practitioner is conspicuous in many such centers. Since the teachers of medicine are specialists, it is only natural that they should glorify the role of the

¹ S. A. & S. B. Thompson, Camden, Ark., in *J. A. M. A.*, June 8th.

specialist even where such feelings are not expressed.

More and more common is the patient who feels competent to select the proper specialist, and one may anticipate that this group will become more numerous as the indoctrination goes on. More and more prominence is being assumed in private practice by the group clinics, and the trend in these days is steadily toward specialization.

Can the medical schools conscientiously send out a man with only an M.D. degree if they feel that he is not qualified to treat patients until he becomes certified by a specialty board?

The basic policy of the private practice of medicine, even today, rests on the general practitioner who takes care of the routine ills of all members of the family and refers them to appropriate specialists when occasion demands. Is it sensible to have a pediatrician prescribe for the children and an internist for the parents when the same upper respiratory infection strikes several members of a family? Must the orthopedist be called for the contusion, sprained ankle and undisplaced fracture?

Two basic criticisms have been leveled at the system of general practice. First, failure of the general practitioner, on occasion, to differentiate between the trivial and the serious. Secondly, the failure of the general practitioner to observe the limitations of his training. That some general practitioners fail to refer patients requiring specialized care may be attributed to their fear of loss of prestige and income; of the two, prestige is probably far more important.

The answer to this lies in the improvement of the status of the general practitioner and his and the public's indoctrination with regard to the dignity of his position as a family physician.

During the past 50 years the life expectancy has been increased from 33 to 60 years, maternal and infant mortality has been lowered tremendously, many infectious diseases have been all but eliminated. In that time more than 90 per cent of medical care to patients has been given by general practitioner. Surely this implies that he is capable of treating patients.

The lowest-income group of a large city receive their medical care, for the most part, from teaching hospitals, where all patients are treated by or under the supervision of specialists. In towns of 10,000 or less, patients are treated by general practitioners with quite limited facilities and are referred to private specialists or medical centers if their needs warrant. One needs only to observe the difference in appearance of these two groups to see which has the higher health standards. There is reason to believe that, in many instances, a patient

may receive better care by routinely consulting his general practitioner before seeking the attention of a specialist.

If the patient complains of low back pain, will not the orthopedist first check the posture, the urologist the prostate, the gynecologist the position of the uterus, the gastroenterologist the bowel habits? How many specialists must the patient consult before the source of his complaint is found? Many fruitless diagnostic procedures could be avoided and money, suffering and time saved if patients consulted the general practitioner and the appropriate specialist recommended by him.

Recognition of the general practitioner by the regimented systems would do much to improve his status in the minds of patients and young physicians. General practitioners should be given staff appointments in teaching centers. A competent and successful general practitioner assigned to each specialty service would act as an adviser to the chief of service in regard to those parts of his specialty which should be emphasized in the training of general practitioners. This system might go far toward eliminating the first of the two serious criticisms of the general practitioner previously discussed. Also, it would enhance the prestige of the general practitioner in the mind of the young physician. A second proposal is to establish general practice services in teaching, military and veterans' hospitals. These services could handle the routine, not necessarily minor, conditions usually handled in that community by general practitioners in a manner similar to that used in private practice.

The agreements being made between the Veterans Administration and various state medical societies for care of service-connected disabilities by local physicians in local hospitals may represent the beginning of a trend toward recognition of the value of the services of general practitioners by regimented medicine. This would make available to the Veterans Administration that very large fund of knowledge possessed only by the family physician and would provide the personalized medicine the veteran misses so rarely in military and Veterans Administration hospitals. For the general practitioner it would do much to enhance his prestige in the minds of the 19,000,000 veterans and their families.

In addition it is proposed that the training of the general practitioner be improved. The general practice service in teaching hospitals might do much to clarify in the minds of young physicians the limits within which they can safely practice. Training does not cease with entry into practice, and the proper training of the general practitioner must continue as does that of the specialist. Might not the specialist be considered partially responsible if a general practitioner who habitually refers

patients to him makes an error in his field?

As a means to bring about the limitation of the work of the general practitioner to that for which he is adequately trained and as an agency through which educational material directed at the profession and the public might be disseminated, an organization limited to general practitioners with standards sufficiently high to make membership a significant honor might be considered. Individual action, group action in local medical societies and free discussions at medical gatherings can do much to eliminate the abuses now prevalent. Most specialties, however, have found it advisable to organize and set up standards in order to dignify their group, and such organization may be the answer for the general practitioner.

For the quarter century during which *Southern Medicine & Surgery* has been under its present editorship, this journal has labored, in season and out of season, to magnify the general practitioner, not only in justice to him but as the only means of maintaining the private practice of medicine as a going concern.

I was spokesman for the group who successfully advocated the formation of a Section on General Practice in the Medical Society of the State of North Carolina, and in the Southern Medical Association.

Here is an expression of the convictions of Dr. Douglas Jennings, of Bennettsville, S. C., in his presidential address to the Tri-State Medical Association of the Carolinas and Virginia, published in our issue for March, 1937:

General practitioners, quite a number of them, growing weary of having members of their families look a bit shame-faced when they own themselves to be close kin to a general practitioner, pull up stakes and specialize; thus lessening the numbers of a group that is already too large. You have heard of the self-possessed country doctor being asked by a bumptious lawyer "isn't it a fact that you are a general practitioner pure and simple?", taking some of the wind out of the sails of the bumptious one with the reply, "I am a general practitioner, reasonably pure and altogether simple."

I would like to see our medical schools presided over by deans who are general practitioners and every general hospital appoint a general practitioner as chief-of-staff.

From our issue for April, 1943:

The reasons why general practitioners do not show as much interest in the diagnosis and the treatment [of tuberculosis] as the tuberculosis specialists say they should are several. Prominent among them is the public having been taught, largely by the specialists, that the g. p. doesn't know anything about the disease, its diagnosis or its treatment. One of the means by which this impression is given to the public is by failure to

keep the g. p. informed of the progress of his (at least he was once his) patient while in the sanatorium: Another is by the specialist giving the patient a lot of instructions as to what he shall do when he gets home and when he shall come back for a "check" (*sic*), instead of advising the patient to go back to the doctor who sent him in and, at the same time, mailing the doctor a detailed discharge report, with outline of suggestions as to future care.

From our issue for July, 1944:

We heartily agree that something should be done to make country practice attractive. We would go further and say that influential doctors should cease to make country and village practice unattractive.

All Dr. Fitz [Dr. Reginald, of Boston] says in favor of better and better training in medicine and surgery is endorsed; but no matter how well-trained a doctor of medicine may be, so long as the doctors most conspicuously before the public continue the present over-emphasis on the importance of the specialist and the hospital, the general practitioner will not be accorded the high place he deserves in the profession.

A specialist from a thousand miles away, the "distinguished invited guest" of a county medical society made up entirely of general practitioners, was heard by this editor to say from the platform, of a rather new treatment procedure: "It's not complicated. Anybody can use it. The nurse can use, or even the general practitioner." And he didn't say it as a joke either. Indeed, so accustomed is everybody to this belittling of the general practitioner that, apparently, nobody else took note of the statement.

The vast majority of doctors, along with the rest of the human race, like to be given recognition as persons of some consequence, by their profession and by the general public.

So long as the public is encouraged to believe in the omnipotence of the specialist and the hospital, and that the general practitioner's function does not go beyond the "pricking out of thistles or the laying of a plaster to the scratch of a pin," most doctors will specialize and do hospital and office practice.

The difference in pecuniary rewards is not the main thing. The great majority of country doctors have incomes satisfactory to themselves. The main reason for getting out of this kind of practice is that it hurts their pride to be regarded by everybody as qualified to treat minor, very minor, conditions only.

An excellent general practitioner, with an M.A. degree, was once asked by me why he never came to meetings of the local medical society. He replied, "because I am tired of having men without education talk down to me, and about educating me."

From our issue for October, 1944:

"The general practitioner and no one else can save the medical profession," says this wise and clear-seeing dean [of the Medical School of the University of Indiana]. True; but only if the high-priced—and therefore the best, in the opinion of the ninety-and-nine whose sole criterion of value is price—members of the profession will awake to the fact that a superstructure must fall when its foundation is completely undermined; and, in self-defense if for no more worthy motive, give the general practitioner his due. In this connection, it is to be borne in mind that medical school faculties are made up wholly of specialists; and that, just as a lawyer on the bench is three-fourths lawyer and one-fourth judge, so a specialist member of the faculty of a medical school is three-fourths specialist and one-fourth teacher of what to do for sick folks.

It may well be doubted whether private medical practice can survive unless it soon comes about that as many patients are referred from specialist to general practitioner as from general practitioner to specialist. And it would help everybody if every dean of a medical school were a genuine family doctor, in active practice.

This journal is no new convert to the cause of the general practitioner. Here are evidences that we have foreseen just where the glorification of specialism, and the complacency of the specialist, was leading us to.

HIGH-FLUID INTAKE IN THE MANAGEMENT OF EDEMA

Who can estimate the human suffering caused by the foolish denial of water to the dropsied?

Schemm's¹ article is much to the point. Hear him:

With the proper regulation of sodium ingestion large amounts of water can be given to patients with dropsy to their benefit. The immediate and later results of the high-fluid intake regimen are superior to those obtainable with restricted fluid.

For temperature regulation alone the vaporization of water from the lungs and skin may take from 800 to 5,000 c.c. Many patients who are thirsty are not water-logged, but brine-logged. Correction of this water deficit may require water amounting to as much as 6 to 10 per cent of the body weight, or as much as 6,000 c.c. When an excess of sodium salts is being retained—i.e., when edema is forming—one liter of water is diverted as solvent for every 9 grams of alkaline salt mixture. To excrete solids presented to them, badly damaged kidneys may require four to five times as much water as normal kidneys. At times it is essential to provide for 2000 c.c. of urine water over

and above the prior demands of the body. Normal balance is maintained with 1500 c.c. of water daily; in a badly dehydrated edematous patient, with fever and sweating and badly impaired kidneys, the water requirement may amount to 6 to 8 liters for a day or two and from 4 to 5 liters daily thereafter. Two to 3 liters daily is enough, and safe, only for the average mild case.

Sodium ingestion is regulated by the use of neutral diets and by taking precautions to prevent any extradietary ingestion of salt, sodium, or basic-ash excess. A young man whose resistant nephrotic edema had responded to the regimen in a very gratifying manner, returned in two weeks with a recurrence of 20 pounds of edema because he had not been forbidden to use soda for indigestion. Calcium carbonate was substituted for the sodium bicarbonate and without further change he again became edema free.

Full neutral diet: 1 pint milk, 2 eggs; 2 servings vegetables; 1 serving meat, fish or fowl; 2 servings fruits, except prune, plum, cranberry; 5 slices bread or 5 servings of cereals.

Initial neutral diet: Six small feedings a day, each consisting of 1 egg, 2 slices bread, 1 cup cereal prepared or cooked, 1 cup milk or 2/3 cup milk and 1-3 cup cream. No salt or soda in or on food. No "fancy" foods put up with salt. No "vegetable" salt; no soda for "gas." No salt broth, or extra juices, or milk.

Outline:

1. Diet "Initial Neutral" (6 small feedings).
2. Fluid intake to 4,000 c.c. daily.
3. Diluted HCl 1/3 c.c. in a glassful of water every hour from 8 a. m. to 7 p. m.
4. Ammonium chloride 0.5 grams after feedings, or 1.0 gram t.i.d.
5. 500-1000 c.c. of 5% dextrose in distilled water by vein at 8 a. m., 2 p. m. and 6 p. m., when needed to bring total intake to 4000 c.c.
6. Mercupurin 1 c.c. in 500-1000 5% dextrose in distilled water by vein, when needed, but not before one full day on regimen.
7. Record 24-hour intake and output, and weigh daily before breakfast.

PHYSICIANS' LIEN LAWS

A NEW YORK attorney¹ writes in a medical journal on a matter of importance to all doctors. It will be worth your while to read the substance of what he has to say.

Doctors, you are reminded of this provision by which you can somewhat lessen the unattractiveness of this particularly unattractive and unremunerative kind of practice.

In Arkansas, Montana, Nebraska and some other States statutes give physicians, nurses and hospital

¹ F. R. Schemm, Great Falls, Montana, in *Jl-Lancet*, Feb.

tals a lien to recover the reasonable value of their services. North Carolina has created a lien in favor of physicians, dentists, trained nurses and hospitals. Hospitals, physicians and registered nurses have a lien for their charges in the State of Virginia. New York hospitals have this protection, but not so with New York doctors.

In the absence of such a statute, physicians attending patients in or out of hospitals have no direct claim against the money received by the patient as damages, although the patient is entitled to recover the amount of the doctor's bill as part of his special damages, even though he has not paid the bill and may not intend to pay it.

Hayt does not say that South Carolina doctors have any such protection. Presumably they have not. It may well be doubted that Virginia and North Carolina doctors generally know that the legislatures of these two States have given their doctors this measure of protection.

Hospitals and others rendering aid to injured persons should be protected by a measure of this kind. Patients should not be permitted to collect the cost of hospital, medical or nursing attendance, as a part of their damages, without paying the bill. Such person should not be enriched at the expense of the hospital, physician and nurse.

TREATMENT OF HEADACHE WITH SODIUM NICOTINATE BY VEIN

EVERYBODY has headache. Everybody should be interested in news¹ of a vitamin remedy.

The successful use of nicotinic acid by mouth or by vein in the treatment of certain special types of cephalgia, such as migraine, malarial headache or sinus headache, has been reported within recent years.

In these experiments sodium nicotinate was used except in a few instances in which niacin was substituted; 100 mg. of nicotinic acid or its equivalent as the sodium salt was taken as the standard dose.

The effect of sodium nicotinate by vein was studied in 100 consecutive cases with severe headache. In 75 relief was complete. Sodium nicotinate by vein is recommended in the symptomatic treatment of a) severe idiopathic headache, b) migraine and c) postspinal tap cephalgia.

¹ J. W. Goldzieher & G. L. Popkin, New York, in *Jl. A. M. A.*, May 11th.

ANTI-ANEMIC PROPERTIES OF THYMINE

(T. D. Spies et al., Birmingham, in *Blood*, May)

Thymine, one of the nucleotides found in thymo-nucleic acid, since it is an integral portion of the biologic cell there has been for some time a special interest in the possibility of its having a role in hemopoiesis.

Three patients with macrocytic anemia and a histamine-refractory achlorhydria and achylia were admitted to the hospital for study. The diet, which excluded all meat, meat products, fish, poultry, and uncooked fresh leafy vegetables, and which allowed only one pint of milk and one

well-cooked egg a day, was rigidly controlled. Daily hematological studies were made.

Three subject revealed the characteristic signs of pernicious anemia and, in addition, arteriosclerosis of moderate degree; one had a chronic pelvic infection which was active during the first eleven days of her treatment period; the other two had no evidence of acute or chronic infection.

Prior to treatment a complete blood count, blood indices, sternal bone marrow studies, icterus index, urinalysis, stool analysis, gastric analysis, oral glucose tolerance tests and gastrointestinal x-ray studies were made on each patient. In each of the three cases the color index was above 1.0; the bone marrow from each patient showed arrest of the cells at the megaloblastic level. In each case the icterus index was above normal and the urine and stools were essentially negative. Gastric analysis after histamine stimulation showed achlorhydria and achylia in all the cases. In each case, upper gastrointestinal series and oral glucose tolerance tests were essentially normal.

The thymine was suspended in one-half glass of cold tap water.

In case I 0.5 grams of thymine was given twice daily for six days without any hematological or clinical response; then 2.0 grams t.i.d. for 14 days. In case II 3.4 grams t.i.d. for 11 days. In case III 1.5 grams t.i.d. for 14 days, then 3.4 grams t.i.d. for 4 days.

The clinical and hematological improvement in these cases was in every way similar to that which follows the administration of folic acid to patients with pernicious anemia in relapse. The exact mode of action of thymine is obscure, but it is possible that folic acid may act as an enzyme or co-enzyme in the synthesis of thymine or a thymine-like compound. Such synthesis may take place in the gastrointestinal tract. The present findings indicate that thymine has anti-anemic properties and a profound effect on the general metabolism of patients with Addisonian pernicious anemia in relapse.

OUTBREAK OF HEMOLYTIC STREPTOCOCCUS THROAT INFECTION CONTROLLED BY SULFADIAZINE

(Major R. B. Lindberg et al., Army of the U. S., in *Jl. Lab. & Clin. Med.*, May)

The first patient was admitted Dec. 28th, 1944; two were admitted Dec. 31st; three more Jan. 1st, 1945, and on Jan. 2nd eight more of the hospital personnel. The earlier individuals showed the presence of large numbers of beta hemolytic streptococci in throat cultures. It was apparent that a fairly large epidemic of streptococcal sore throat was going to disable the staff of the hospital.

The following measures were taken: 1) detection of all cases and suspected cases by screening of the personnel; 2) isolation of all cases and suspects; 3) efforts to determine the origin of all known cases; and 4) administration of sulfadiazine to all personnel of the staff.

Sulfadiazine was started Jan. 3rd and continued for five days by giving personnel 7½ gr. before each meal. Between Dec. 28th, 1944, and Jan. 3rd, 1945, a total of 35 patients were admitted with hemolytic streptococcus sore throats. Following the sulfadiazine prophylaxis, which started Jan. 3rd, there were only seven cases up to Jan. 15th when the last case occurred. No reactions due to sensitivity to the sulfadiazine were noted.

Patients with the more severe cases were given an initial dose of 4 Gm. of sulfadiazine followed by 1 Gm. q. 4 h. for from two to eight days. Patients not very ill were treated symptomatically, without the use of sulphonamides. Only one patient was seriously ill. He had a profuse pharyngitis with considerable edema of the fauces and bilateral cervical adenopathy. On sulfadiazine, his t. dropped from 103° to normal in 72 hours, and he made an uneventful recovery.

Obituary

DOCTOR ROBERT WILSON

ON May 20th (Independence Day in North Carolina) died a stalwart in medicine, one of the few remaining, and of a type we can ill spare.

Dr. Wilson came into clinical medicine through the door of bacteriology. Having studied medicine in the time at which many "practical" men, not a few of them in high repute and wielding a tremendous influence, scoffed at the idea that "bugs" could cause disease; and, realizing the completeness of the proof of the great discoveries already made in this new science, and the promise held out for the future, this far-sighted young man availed himself of all opportunities and so laid a broad and firm foundation on which, through the years, he builded a knowledge of diagnosis and cure of disease that entitled him to rank with Osler, with Janeway, with Hare and with Barker.

Dr. Wilson discharged the duties of professor of medicine and dean of the Faculty of the Medical College of the State of South Carolina for most of the years most of us have been doctors. It was fitting that this should be so, for it was largely his effort that saved the college from destruction, and he was eminently qualified by native intelligence, by sedulous application, by sense of civic duty and by native qualities of leadership. All this applies as well to his decades of service as president of the Board of Health of his State.

The Tri-State Medical Association proudly claims him as a member for a quarter century and an ex-president, and joins with surviving members of the family and all doctors of his State and section—with all good doctors everywhere—in lamenting his death.

DOCTOR THOMAS LESLIE CARTER

IT is a remarkable coincidence that the two North Carolina general practitioners of medicine who in recent years have most stoutly upheld the cause of the largest and most valuable group of doctors both died violent deaths.

Two years ago Dr. Walter Lackey, of Fallston, was burned to death while serving in the Army. On the twentieth of last month Dr. Thomas Carter, answering a call for his professional ministrations, died in his wrecked automobile.

It was largely through Dr. Lackey's efforts that a Section on the General Practice of Medicine and Surgery was established in the Medical Society of the State of North Carolina, and a similar section in the Southern Medical Association. A good many of us believe that his success in these two efforts accounts for the existence of such a section in the American Medical Association.

Dr. Carter, convinced that the general practitioner is the foundation stone of the medical structure, that he is fully competent to manage at least 80 per cent of practice, and that the concept that the place for every sick person is in a hospital under the care of a number of specialists is erroneous, exerted his intelligence and energy against a plan for making revolutionary changes in our way of rendering medical care in North Carolina. With what result? The plan was balked for the time; and a good many clever in figuring probabilities will lay a wager that the most objectionable features of the plan are one with Ninevah and Tyre.

Dr. Carter was tireless in the educational, religious and civic affairs of his section, finding time from his tremendous medical practice for all those other ways of serving his people.

His untimely taking off is particularly tragic in that the changes in medicine against which he fought so stoutly have so far prevailed that the chance of a doctor appearing to take up his country practice is small indeed.

STOCKINET-ADHESIVE CHEST STRAPPING

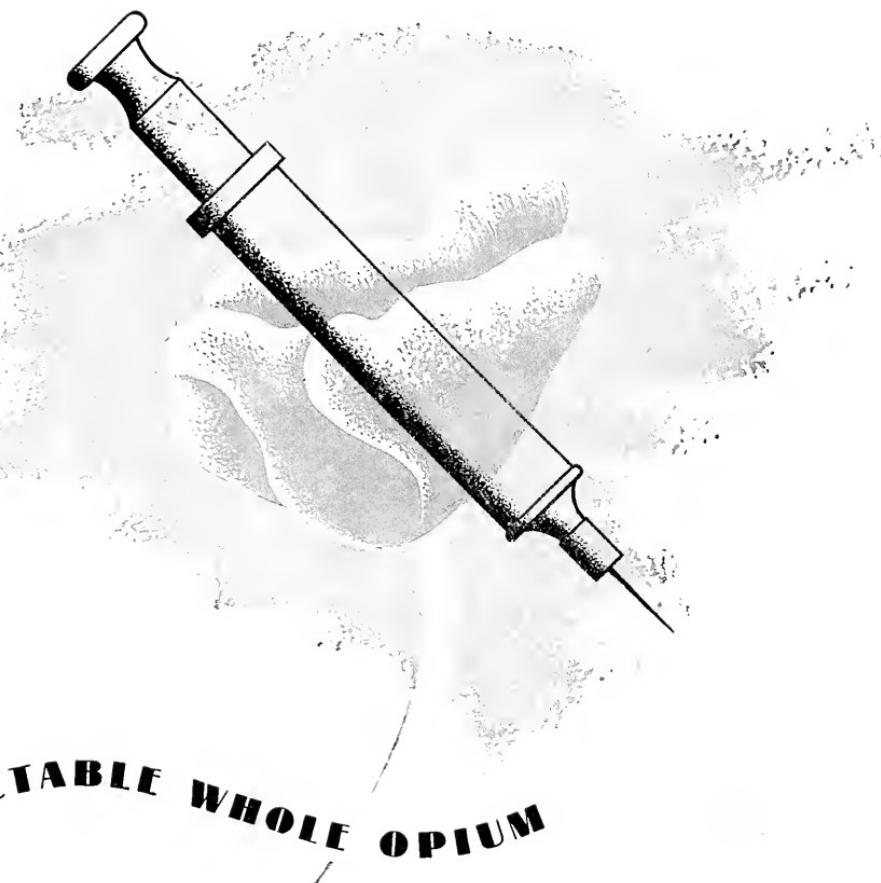
(B. C. Wiley, in *Arch. Physical Med.*, 26:764, 1945)

A lot of us have never got the benefit from chest strapping that some enthusiasts claim. All of us have had the skin stripped off along with the plaster. Wiley describes a method which sounds promising.

Use of the stockinet-adhesive strapping overcomes most of the disadvantages of strapping with overlapping strips of adhesive. The advantages of this strapping are: contact dermatitis is avoided because no adhesive is in contact with the skin; the epidermis is not torn when removing the binding; shaving of the chest is unnecessary; repeated adjustment of the strapping is easily made; the binding can be removed readily when other treatment is given and it can then be reapplied; it can be removed by the patient before bathing and reapplied; it will not roll into a round cord as ordinary binders do; it will not slip (expand) as does adhesive tape when applied directly to the skin; and it immobilizes the thoracic cage quite satisfactorily.

A piece of 4-inch-wide tubular stockinet (such as that used about an extremity prior to the application of plaster cast) is slightly stretched around the lower part of the patient's chest and cut off at such a length as to permit its ends to overlap $1\frac{1}{2}$ inches. This piece of stockinet is then laid out straight on a table, and without being stretched, has a strip of 3-inch adhesive tape stuck to its upper surface beginning flush with one end. The adhesive tape is then cut off 10 inches beyond the opposite end of the stockinet.

The combination strip is placed around the chest at the desired height, stockinet surface next to the skin, and the free, adhesive tape end held out at a tangent to the torso. The patient is instructed to inhale deeply, then exhale as completely as possible and hold that chest position until the free adhesive tape can be wrapped around the portion of the binder already in place and so stuck to the back of the stockinet end of the adhesive tape. Since the stockinet extends $\frac{1}{2}$ inch beyond each side of the adhesive tape, this binder can be applied well up under female breasts without causing chafing.



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NEWS

STUDIES AT DUKE UNIVERSITY CAST NEW LIGHT ON FILTERABLE VIRUS

The filterable virus, probably man's most deadly enemy, is a highly complex structure. New light on the nature of these minute organisms which are responsible for some of the most dreaded human and animal diseases has been obtained from studies at Duke University, just reported to the Office of the Surgeon General of the Army under whose direction experimental work was conducted during the war.

The viruses have diameters of only a few millions of a millimeter, far below the limits of the most powerful optical microscope. Through use of the electron microscope and microchemical techniques, however, it was possible for the Duke investigators to obtain considerable information. Viruses are so minute that there has been some question as to whether they are living things, or large molecules somehow endowed with the ability to reproduce themselves. But, says Dr. Joseph W. Beard, who was in charge of the Duke investigations under the Army: "These particles cannot be molecules. They are of very complex structure and apparently are enclosed in a membrane."

The studies were made on two viruses—one of which causes rabbit papilloma, the other human vaccinia—and one of the bacteriophages, which are quite similar organizations. These were simpler to study than the influenza viruses which were the ultimate objectives of the Duke investigations.

The bacteriophage especially looked like an ultramicroscopic tadpole. It has a well-defined head and a stubby tail. The papilloma virus was spheroidal while the vaccinia organism was like a flattened disk with denser internal material bulging beneath the surface of its "skin."

Other tests showed that these viruses were a little more than half water. The chemical composition of the bacteriophage consisted of a mixture of proteins and lipoids, or basic constituents of fats, in association with a high content of nucleic acids, very complex compounds found in the nuclei of all living cells. The chief element was carbon—about 42 per cent. There also were considerable amounts of nitrogen and phosphorus. The diameter of the papilloma virus was found to be .065 mm.

MEDICAL COLLEGE OF VIRGINIA

Major Faculty Promotions:

Dr. T. Neill Barnett from assistant professor of medicine to associate professor of clinical medicine.

Dr. Nathan Bloom from assistant professor of medicine to associate professor of medicine.

Dr. Douglas G. Chapman from associate in medicine to assistant professor of clinical medicine.

Dr. Marshall P. Gordon, Jr., from associate in urology to assistant professor of urology.

Dr. Erling S. Hegre from assistant professor of anatomy to associate professor of anatomy.

Dr. Guy W. Horsley from assistant professor of surgery to associate professor of surgery.

Dr. Roscoe D. Hughes from assistant professor of biology to professor of biology.

Dr. William R. Jordan from associate in medicine to assistant professor of clinical medicine.

Dr. Karl L. Kaufman from associate professor of pharmacy to professor of pharmacy.

Dr. Paul S. Larson from research associate in pharmacology to associate professor of research pharmacology.

Dr. R. Campbell Manson from instructor in dermatology and syphilology to assistant professor of clinical dermatology and syphilology.

Dr. Allen Pepple from instructor in dermatology and syphilology to assistant professor of clinical dermatology and syphilology.

Dr. Benjamin W. Rawles, Jr., from associate in surgery to assistant professor of surgery.

Dr. Edward S. Ray from associate in medicine to assistant professor of medicine.

Dr. Leroy Smith from associate in surgery to assistant professor of surgery.

Dr. Maynard P. Smith from associate in otology, rhinology and laryngology to assistant professor of otology, rhinology and laryngology.

Dr. Lewis T. Stoneburger, Jr., from associate in medicine to assistant professor of clinical medicine.

Dr. George N. Thrift from associate in otology, rhinology and laryngology to assistant professor of otology, rhinology and laryngology.

Dr. Elam C. Toone, Jr., from associate in medicine to assistant professor of medicine.

Dr. James T. Tucker from assistant professor of orthopedic surgery to associate professor of orthopedic surgery.

Dr. Harry Walker from associate professor of medicine to professor of clinical medicine.

Dr. T. B. Washington from associate in urology to assistant professor of urology.

Dr. J. H. Weatherby from research associate in pharmacology to associate professor of research pharmacology.

Dr. B. R. Wellford from associate in otology, rhinology and laryngology to assistant professor of otology, rhinology and laryngology.

Dr. George Z. Williams from associate professor of pathology to professor of pathology.

Dr. J. Powell Williams from associate professor of medicine to professor of clinical medicine.

Dr. W. C. Winn from assistant professor of obstetrics to associate professor of obstetrics.

New Appointments:

Dr. Randall L. Thompson, associate professor of bacteriology and parasitology; Dr. William A. Summers, assistant professor of bacteriology and parasitology; Dr. Charles E. Troelstra, assistant professor of neurological surgery; Dr. Delbert V. Keckle, assistant professor of radiology; Miss Margaret Denniston, associate professor of nursing; Dr. Dwight C. Atkinson, assistant professor of exodontia and radiology; Dr. T. Wiley Hodges, assistant professor of orthopedic surgery.

A TESTIMONIAL DINNER FOR DOCTOR BULLITT

The members of the University of North Carolina Medical School Faculty gave Dr. James B. Bullitt a testimonial dinner at the Carolina Inn on the evening of June 5th. Dr. Bullitt, professor of pathology and head of the department of pathology, is now retiring after 33 years' service.

Dr. W. Reece Berryhill was toastmaster at the dinner. A gift to Dr. Bullitt from his colleagues was the book, "Men without Arms."

EDITORSHIP JOURNAL OF THE KANSAS MEDICAL SOCIETY

Dr. W. M. Mills, editor of the Journal for the past eleven years, has resigned that position to assume his new duties as President of the Kansas Medical Society.

Dr. Lucien R. Pyle, Topeka, a member of the Editorial Board for eleven years, becomes editor. Even during the four years he served in the Navy Dr. Pyle was active in editorial work. He took over his new duties with the May issue of the Journal.

DR. MCCORD WILLIAMS DECORATED

The Peruvian Government has decorated Dr. McChord Williams of Charlotte with the Military Order of Ayacucho, degree of Cavalier, in recognition of the treatment he



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gave the Commanding General of the Peruvian Army at Walter Reed General Hospital, Washington.

The Military Order of Ayacucho was named for the final battle of liberation of Peru from Spain December 9th, 1824. The Peruvian award was approved and transmitted to Dr. Williams by order of the Secretary of War.

APPRECIATION OF DR. FLETCHER JORDAN

On April 16th 2,000 persons gathered at Verner Springs Park to celebrate Dr. Fletcher Jordan's completion of 40 years' practice in Greenville, S. C. The majority of those present were patients of Dr. Jordan's, perhaps half "Dr. Jordan's babies." Dr. Jordan was presented a 1946 Chrysler sedan and Mrs. Jordan a silver service which included a tray, pitcher and 12 goblets.

DR. B. B. BAGBY, JR., former Medical Director at Pine Camp Hospital, Richmond, Va., has been named Director of the Negro Division of Georgia's Battey State Hospital at Rome, Ga.

Dr. Bagby left Richmond last Fall to become Tuberculosis Director for the Georgia State Hospital at Milledgeville. The Battey Hospital has just been taken over by the State of Georgia from the Army which founded the 2,500-bed institution.

DR. WILEY D. FORBES, Professor of Pathology at Duke University Medical School, is the new president of the American Association of Pathologists and Bacteriologists.

The site for the Hospital for the Negro Feeble-minded in North Carolina has been selected on the grounds of the State Hospital for Negroes near Goldsboro. The initial outlay has been placed at \$1,500,000.

DIED

Dr. Ashby Clifford Byers, 71, dean of the Rockingham County (Va.) medical profession, died at Rockingham Hospital, Harrisonburg, Va., June 13th.

It is said that he officiated at the birth of more than 6,000 babies.

Death was due to a heart condition from which he had suffered for some time.

Dr. Byers had served as coroner and health officer of both Harrisonburg and Rockingham County; as a member of the original staff of Rockingham Hospital; as an officer on County and Valley medical associations, and as a member of the Harrisonburg School Board.

He was a charter member of the Rotary Club and a past exalted ruler of the Elks' Lodge. Interested in the breeding and raising of fine saddle horses and cattle, Dr. Byers served as president of the old Rockingham County Fair and was an officer of the old Harrisonburg Horse Show Association.

Dr. Thomas Leslie Carter, 53, prominent physician of Gates County, N. C., was killed instantly May 21st, when his automobile was wrecked following a blow-out. Dr. Carter was on his way to visit a patient just across the Virginia line when the tragedy occurred.

Dr. Robert Wilson, 79, for a quarter century dean of the Medical College of the State of South Carolina, and for a longer period president of the South Carolina State Board of Health, died at his home in Charleston May 20th.

Dr. C. C. Ariail, Greenville, S. C., died May 18th of a subdural hemorrhage. He was a graduate of the Medical College of the State of South Carolina of 1913.

BOOKS

A HISTORY OF MEDICINE, by DOUGLAS GUTHRIE, M.D., F.R.C.S. (Ed.), F.R.S.E., with an introduction by SAMUEL C. HARVEY, M.D., F.A.C.S., Wm. H. Carmalt Professor of Surgery, Yale University School of Medicine. *J. B. Lippincott Co.*, E. Washington Square, Philadelphia 5, 1946. \$6.

The author deplores the fact that the rapid advances and new discoveries of recent years have largely eclipsed the work of such great figures as Harvey, Hunter and Lister. He thinks that there is great need for more systematic teaching of medical history as a background for the medicine we know and practice today. He speaks of this work as an outline and makes it plain that it does not aim at completeness, that he recognized the fact that worthy names have been omitted in order that the story might not lose in interest by gaining in detail.

This Edinburgh surgeon makes some mention of Dr. Crawford W. Long having been the first to use ether as an anesthetic. One is surprised to find this sentence: "Long used ether in other cases; but whether from lack of enterprise, failure to grasp its importance, or remoteness from civilization, he did not publish his discovery until 1849." Dr. Long's operations on patients under the influence of ether were performed at Jefferson, Georgia, within less than 30 miles of Athens, the seat of the University of Georgia—chartered 1785, organized 1801—which vies with the University of North Carolina for the honor of being the oldest State University in the United States. One would hardly expect a Scotsman to speak of Dr. Long, practicing medicine and surgery within 30 miles of a University worthy of the name, as being remote from civilization.

PSYCHIATRY TODAY AND TOMORROW, by SAMUEL ZACHARY ORGEL, M.D., F.A.P.A., Consulting Psychiatrist, Miriam Barnert Memorial Hospital, Paterson, N. J. *International Universities Press*, 227 West 13th St., New York 11, 1946. 6.00.

The book first considers the psychological development of the healthy-minded individual from the viewpoint of the psychoanalyst. He then develops a detailed classification of those deviations by which we recognize mental diseases. These mental diseases are dealt with systematically as to causes, symptoms, course, treatment and possible prevention—a somewhat unlooked for circumstance in a book on psychiatry of this day. There are chapters on occupational therapy, social work, insanity and the criminal law, and on commitment laws. The whole will serve a useful purpose in the hands of all of us who are touched in any way—and who among us is not—with the problems of the mentally deficient and the mentally diseased.

ELECTROCARDIOGRAPHY: Including an Atlas of Electrocardiograms, by LOUIS N. KATZ, M.A., M.D., F.A.C.P., Director of Cardiovascular Research, Michael Reese Hospital, Chicago. Second edition, enlarged and thoroughly revised. *Lea & Febiger*, Washington Square, Philadelphia 6, 1946. \$12.00.

The author has availed himself of an opportunity to bring this popular work entirely up to date in this, the second, edition. The increase in knowledge of what could and could not be done with the electrocardiogram has made it necessary to increase the number of pages by 50 per cent. A report of the committee of the American Heart Association recommending a nomenclature for the several deflections of the cardiogram is included. The chapter on transient electrocardiographic changes in acute illness and those under the influence of drugs is very informative. A new chapter on interference and dissociation has been added and several unusual arrhythmias are provided to meet the special needs of the advanced student.

EXERCISES IN ELECTROCARDIOGRAPHIC INTERPRETATION: by LOUIS N. KATZ, M.A., M.D., F.A.C.P., Director of Cardiovascular Research, Michael Reese Hospital, Chicago; Professorial Lecturer in Physiology, University of Chicago. Second edition, thoroughly revised. *Lea & Febiger*, Washington Square, Philadelphia, 1946. \$6.

In this edition the number of cases for interpretation is 100. Description and interpretation in each case is set opposite the electrocardiogram for ready comparison of the reader's interpretation with that of the author. A clinical synopsis is given for correlation of the evidence afforded by the ecg. and that developed by ordinary clinical methods.

This work can be well used as a companion book to the author's "Electrocardiography."

THE MANAGEMENT OF FRACTURES, DISLOCATIONS, AND SPRAINS, by JOHN ALBERT KEY, B.S., M.D. St. Louis, Clinical Professor of Orthopedic Surgery, Washington University School of Medicine; and H. EARLE CONWELL, M.D., F.A.C.S., Birmingham, Orthopedic Surgeon to the Tennessee Coal, Iron & Railroad Co. Fourth edition. *The C. V. Mosby Company*, 3208 Washington Blvd., St. Louis 3, Mo. 1946. \$12.50.

The last few years of experience in civil and military practice have wrought many changes and great improvements in the management of fractures, dislocations and sprains. The whole field is covered in a strictly practical way and in great

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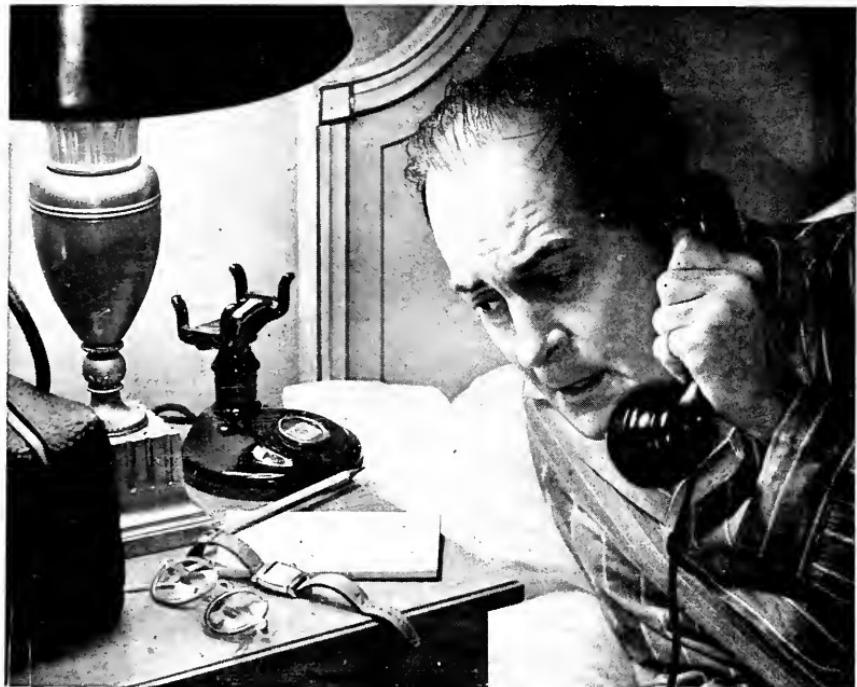
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An excellent chapter describes fracture equipment, plaster of Paris technic, epiphyseal separation, and the x-rays in the diagnosis and treatment of fractures and dislocations of the extremities.

Text and illustrations combine to make this one of the most valuable coverages of this important subject.

SYNOPSIS OF PATHOLOGY, by W. A. D. ANDERSON, M.A., M.D., F.A.C.P., Professor of Pathology and Bacteriology, Marquette University School of Medicine; with 327 text illustrations and 15 color plates. *The C. V. Mosby Company*, 3207 Washington Blvd., St. Louis 3. 1946. \$6.

Every doctor of medicine needs to keep up with the latest developments in pathology. Very few of us have the time or the willingness to delve into the larger textbooks devoted to this subject. This synopsis should serve an excellent purpose and meet a great need.

ELECTROCARDIOGRAPHY IN PRACTICE, by ASHTON GRAYBIEL, M.D., Captain, Medical Corps, U. S. Naval Reserve Co-ordinator of Research, U. S. Naval School of Aviation Medicine, Pensacola, Florida; and PAUL D. WHITE, M.D., Lecturer in Medicine, Harvard Medical School; Physician, Massachusetts General Hospital; with the assistance of LOUIS WHEELER, A.M., Executive Secretary, The Cardiac Laboratory, Massachusetts General Hospital; CONGER WILLIAMS, M.D., Assistant in Medicine, Harvard Medical School and Massachusetts General Hospital. Second Edition. 458 pages, with 323 illustrations. *W. B. Saunders Company*, Philadelphia and London. 1946. \$7.00.

This book is written by pupils of Sir Thomas Lewis and dedicated to his memory. Profit has been taken from critical comments of the first edition which is manifested in this edition. Also manifested is the success of an effort to present the subject against a background of the accumulated and tested knowledge of electrocardiography in practice.

A profusion of electrodiagrams is presented, enlarged so as to be readily readable in every detail, and text on opposite page elaborates the teaching of the electrical recording.

Particularly valuable is the emphasis on variations in the electrocardiogram which do not indicate departure from health.

A TEXTBOOK OF GYNECOLOGY, by ARTHUR HALE CURTIS, M.D., Professor and Chairman of the Department of Obstetrics and Gynecology, Northwestern University Medical School; Chief of Gynecological Service, Passavant Memorial Hospital, Chicago. Fifth Edition. 755

pages with 455 illustrations. Chiefly by Tom Jones, including 36 in color. *W. B. Saunders Company*, Philadelphia and London, 1946. \$8.00.

Recent improvements in therapy in this field have necessitated an extensive revision. Attention is called particularly to additions to the sections on ovarian tumors and disturbances of endocrine origin in a particularly practical and helpful way. The treatment of gonorrhreal infection has been rewritten, as indeed it had to be in order to properly account for the revolutionary changes in its treatment. Two new subjects included are sarcomatoid growth of the endometrial stroma and hypertrophy of the uterus.

Many illustrations have been added and these and the illustrations used in former editions are of a high order of excellence.

MODERN MANAGEMENT IN CLINICAL MEDICINE, by F. KENNETH ALBRECHT, M.D., S.A. Surgeon, U. S. Public Health Service. *The Williams & Wilkins Company*, Mt. Royal & Guilford Aves., Baltimore. 1946. \$10.00.

The author believes that there is need for a new book that will bring to the medical practitioner things of value which he is unable to find in textbooks on clinical subjects. He undertakes to present new facts and the newer developments of medical science, or to present old facts in a clearer and more available manner so that the reader may obtain essential information on the medical subject by the expenditure of a minimum of time.

The author regards himself as a reporter rather than an author, and the book is put forth as a compilation assembled from a great many sources after painstaking search and careful sifting of an enormous number of medical writings. In addition a considerable part of the work is a reflection of the author's own experience, and all of it bears the imprint of his own literary style.

This book will stand the doctor in good stead when he has a case so atypical as to present unusual difficulties in diagnosis and in treatment. In many such cases it will put him on the right track, supply him with immediately useful information and references from which he can gain access to more elaborate discussion.

ALCOHOL IN THE BLOOD

(J. C. Krantz, Baltimore, in a Pamphlet on Alcoholism, April)

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JAMES M. NORTHINGTON, M.D., Editor

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Tetanus *

RUSSELL BUXTON, M.D., Newport News, Virginia

UNTIL a few years ago, the treatment of tetanus was more or less haphazard and there were very few concrete ideas concerning the therapy of the disease. During the past few years, however, it has been increasingly apparent that an organized routine in the treatment of tetanus is necessary and there are certain definite trends which have developed and which are leading to a marked reduction in the mortality of the disease. It is the aim of this paper to correlate the facts known and to present a rational, consistent method of treatment of tetanus which can be applied to all the cases with a consequent lowering of mortality.

Before discussing the therapy of tetanus, it is necessary to know a few of the facts concerning the pathologic processes involved. Tetanus is a disease caused by an anaerobic spore-forming bacterium, clostridium tetani, which is widespread in dirt. The disease results when the bacteria are placed beneath the skin in a puncture or devitalized wound. An incubation period of from four to sixteen days is common and during this time, the initial wound, if small, may completely disappear. The bacteria develop an extremely powerful toxin which reaches the central nervous system by the blood stream, causing alterations in the motor cells of the spinal cord so that the muscles innervated from these nerve cells become hyperactive. The muscles then go into tonic contractions resulting in spasm of the glottis, the diaphragm and the intercostal muscles, so that respiration is impossible and the patient dies from respiratory failure.

Since the usual mortality in tetanus is 40 per

cent of all cases of the developed disease, and since we have an excellent preventive for the disease, it would not be right to discuss the treatment of tetanus without stressing the preventive treatment. The best method of prevention is active immunization against tetanus by means of tetanus toxoid (alum-precipitated). This is usually given in two doses, one c.c. in each dose, given eight weeks apart. A small booster or stimulating dose may be injected yearly or when there is a chance of having been exposed to tetanus. The efficacy of the active immunization of tetanus is shown by the fact that during the last war there was no loss of life due to tetanus in the armed forces among men who had received complete active immunization. The next best preventive treatment of tetanus is passive immunization by the subcutaneous injection of antitoxin immediately after sustaining a puncture wound or a wound in which considerable tissue is devitalized. The ordinary dose is 1500 units given subcutaneously; this may be repeated in 24 hours. The objections to the use of tetanus antitoxin are that one dose may cause sensitivity to the horse serum from which it is derived and this may prevent the later use of tetanus antitoxin; and that its effect lasts only ten days or so. For these reasons, as well as because of the fact it is more efficient, tetanus toxoid is to be preferred as a preventive of the disease.

Although the prophylaxis of tetanus is far superior to therapeusis, unfortunately it often becomes necessary to treat the disease after it has developed. There are four important factors in the

*Presented to the Forty-seventh Annual Meeting of the Tri-State Medical Association held at Richmond, Feb. 25th-26th.

treatment of tetanus. The first is the early diagnosis of tetanus, and this may be exceedingly difficult. There is often a history of a puncture wound, though this may not be elicited. The first subjective symptoms are usually backache and tightness about the lips and the jaws, and the patient feels bad. These symptoms occur from four to sixteen days after the injury. Shortly after these first symptoms, he may experience difficulty in urination and in swallowing and headache may become persistent. There is a slight elevation of temperature. The patient appears to be sick out of proportion to the physical signs. After the disease develops there is pronounced stiffness of the back and the neck and locking of the jaws, and the abdominal muscles are rigid. There is extreme hypersensitivity of all reflexes and heightened response to external stimuli as shown by marked photophobia. Laboratory examinations are of little assistance in determining the diagnosis. There is little if any change in the blood and the urine findings and the spinal fluid are usually normal. A smear or culture, or both, may be made from the original wound, and if the tetanus organism be found, the diagnosis is considered positive.

After the diagnosis of tetanus is made, there are three factors to be considered in the treatment of the disease. First is the general treatment of the patient. He should be isolated, the room should be darkened and quiet should be maintained. Adequate nourishment may be insured by intravenous fluids if he is unable to take liquids by mouth. A special nurse who has an intimate knowledge of the disease is of invaluable assistance. In many cases catheterization and enemas need be used to promote proper elimination. Visitors are absolutely prohibited and the general care of the patient is of the utmost importance.

The next step in the treatment of tetanus consists of large doses of tetanus antitoxin, intravenously and intramuscularly—40,000 units intravenously and the same amount intramuscularly as the initial dose. This is repeated in 12 hours, giving a total of 160,000 units for the first 24 hours. During the next day, 80,000 units are given, divided between the intravenous and the intramuscular route and this is continued for three days. If the patient is getting along reasonably well without convulsions, and if muscle spasticity is relaxed, he should be given 20,000 units intravenously and 20,000 intramuscularly for the next four days. After this, 10,000 to 20,000 units are given every two to three days until the patient is cured, which may be considered as a fact if he is symptom-free at the end of two weeks.

The third important factor in the treatment of tetanus is the judicious use of sedation. Until quite recently, morphine sulphate, seconal and nembutal

have been given. However, morphine's respiratory depressant action may be so harmful that this drug is no longer used except to control pain. The barbituric acid derivatives cause secondary excitement and may cause convulsions and for this reason seconal and nembutal were discontinued. At the present time, patients with tetanus are kept in a stuporous state with sodium bromide and chloral hydrate. If convulsions are apparent or imminent, avertin, 60 to 80 mgm. per kilo of body weight, is given every eight hours so that the patient is kept entirely unconscious. The combined use of sodium bromide and chloral hydrate and avertin has proved very satisfactory as means of keeping these hyperactive and hypersensitive patients quiet.

Following the report of two cases of tetanus which were cured after the use of large doses of tetanus antitoxin and penicillin, it was hoped that penicillin would be found to be specific in the treatment of the disease. This hope was based upon the fact that the drug exerts a bacteriostatic effect on *Clostridium tetani* *in vitro*. It is not felt that penicillin has any effect on the toxin produced by the organism, so that its use is rational only to the extent that it may prevent the further multiplication of bacteria and so prevent the formation of additional toxin. The hope that penicillin would prove a sure cure for tetanus has not been borne out, as is shown by our experiences in the past two years.

Since June, 1944, it has been possible to treat seven tetanus patients with penicillin and antitoxin. Of these, three have died, giving a gross mortality of 42.8 per cent—the usual mortality figure in this part of the country. However, two cases that developed tetanus had been receiving penicillin at the time the disease was discovered so that the drug cannot be considered a preventive of the disease. It is apparent from the report by Altermier in which a fairly large series of cases were treated with penicillin, that the chief value is in the treatment of complications, particularly pneumonia. However, from other reports as well as our experiences, while the value of penicillin in the treatment of tetanus has not yet been proven, there is justification for further study to determine its exact status in relation to the therapy of tetanus.

Following is a brief summary of 17 cases:

Case 1—A 19-year-old white boy admitted to the hospital July 15th, 1938, two weeks after a crushing injury to the left hand. He received no prophylactic tetanus antitoxin. Three days before admission, he noted a tightness of the lips. A diagnosis of tetanus was made upon admission and he was treated with large doses of tetanus antitoxin intravenously, intramuscularly and intrathecally. After minor complications—serum reaction and conjunctivitis—he recovered and was discharged in seven days.

Case 2—A 50-year-old colored man was admitted February 20th, 1940. This patient was operated upon four days after admission for a femoral aneurysm which was found to be ruptured. Five days after the operation, the

patient developed tetanus and Welch-bacillus infection, diagnosis confirmed by smear and culture. He was treated intensively by the use of tetanus antitoxin and sulfanilamide, but developed a severe hemolytic jaundice and died five days after operation.

Case 3—An 11-year-old white child was admitted to the hospital on June 28th, 1940, six days after suffering a supracondylar fracture of the humerus. The fracture was reduced but the arm became gangrenous and was amputated on July 18th, twenty-two days after admission. Convulsions developed and other evidence of tetanus twenty-four hours before death on the twenty-fifth hospital day, seven days after operation.

Case 4—A colored man, age unknown, admission July 12th, 1940, with locked jaws, stiff back and backache. A spinal puncture showed no evidence of meningitis. A diagnosis of tetanus was made. No adequate history was obtained, but the patient had a wound of one extremity. Despite tetanus antitoxin and sulfanilamide, the patient grew steadily worse and died of respiratory failure on the sixth hospital day.

Case 5—A white man, 36, was admitted to the hospital December 23d, 1940, sixteen days after a crushing injury to the thumb. This was treated by immediate closure without debridement, nor was tetanus antitoxin given. Twenty-four hours before admission, the patient complained of pain in the neck and the mouth and had difficulty in moving his jaw. This became rapidly worse and backache was noted. After admission, a smear of the secretion from the injured thumb revealed organisms of tetanus. He was treated by opening of the original wound, hot soaks and large doses of tetanus antitoxin intravenously and intramuscularly and with sulfanilamide. He was apparently getting well when, one week after admission, he had a severe convolution, was unable to breathe and expired.

Case 6—A white boy, 9 years of age, was admitted to the hospital on June 26th, 1941. This child with no history of injury, was admitted in respiratory distress, with clenched jaws, stiff neck and hyperactive reflexes. He was treated with tetanus antitoxin and sedatives and made an uneventful recovery, being discharged twelve days after admission.

Case 7—A colored woman, 39, was admitted to the hospital August 31st, 1942, having stuck a nail in her foot four days prior to admission. She was well until two hours before admission when she began to have difficulty in breathing. She was admitted with clenched jaws, stiff neck and hyperactive reflexes. There was a small puncture wound of the foot. The patient was treated with tetanus antitoxin and sulfadiazine, but died suddenly in convulsions twenty-four hours after admission.

Case 8—A 10-year-old colored boy was admitted to the hospital on June 21st, 1943. He had stepped upon a nail two weeks prior to admission and had no tetanus antitoxin given to him. He was well until twenty-four hours before admission when he began to have pain in the back and stiffness of the neck. He was admitted to the hospital with locked jaws, opisthotonus, and a diagnosis of meningitis was made. However, this was not confirmed by spinal puncture and the diagnosis was changed to tetanus. Despite tetanus antitoxin and sedatives, he expired in forty-eight hours of respiratory failure.

Case 9—A colored man, 20, was admitted to the hospital on December 29th, 1943, ten days after amputation of the little finger following an injury. The neck was rigid, the back was stiff and extreme hypersensitivity was noted. He had been treated for lumbago for three days. He was treated with antitoxin and sulfamerazine, but died of respiratory failure in four days.

Case 10—A colored woman, 22, was admitted to the hospital June 15th, 1944. She began to have backache,

stiffness of the jaws and shoulders four days prior to admission. Twelve hours before admission she was seen and given a sedative but returned shortly thereafter. It was found that she could not open her mouth, her neck was stiff and marked generalized hypersensitivity was present. Spinal fluid was negative. No history of a wound was obtained, but after the patient had been bathed, a puncture wound of the right foot was found which resulted from a nail in the patient's shoe, two weeks previously. This patient was treated with penicillin, tetanus antitoxin and sulfadiazine. After a long convalescence complicated by serum reaction and bromide intoxication, the patient was discharged as cured in thirty days.

Case 11—A colored child, 9 years of age, was admitted to the hospital on June 21st, 1944, with a diagnosis of tetanus. One week previously he had injured his toe with a stick. Two days before admission, he began to feel weak, had backache and noticed difficulty in opening his mouth. He was sent to the hospital where his jaws were found to be locked and generalized hypersensitivity was present. Opisthotonus was so extreme that it was impossible to do a spinal tap. He was treated with penicillin and antitoxin and given chloral hydrate and sodium bromide, made a remarkably good recovery and was ready for discharge sixteen days after admission.

Case 12—A 24-year-old colored woman was admitted to the hospital on February 12th, 1945, with a third degree steam burn on the dorsal surface of the right hand. This was treated with sulfathiazole gauze dressings. At the patient's request, she was permitted to go home the following day, but she returned in twelve hours because of extreme pain. The hand showed gangrenous changes and hot normal saline soaks were ordered. She was more comfortable, but on February 17th penicillin was started because of necrosis of the middle and ring fingers. On February 20th, she developed tetanus and large doses of tetanus antitoxin and penicillin were given. This treatment was continued through February 21st and on February 22nd the patient looked much better, but spasticity had increased. After consultation it was decided not to amputate the hand. On the 23d her condition was about the same. There were no convulsions and penicillin and tetanus antitoxin were continued. By the 27th, the patient had become decidedly worse, being much more spastic and tetanus antitoxin was increased. From the 28th on, the patient became much worse and died on March 6th, twenty-two days following injury. There was no postmortem examination.

Case 13—A 72-year-old colored man was admitted to the hospital on May 11th, 1945, complaining of difficulty in swallowing. A diagnosis of vocal cord paralysis due to a stroke was made and he was treated conservatively. On the 13th, his temperature rose to 105 and it was thought he had pneumonia. Penicillin was started. On the 14th, it was found he had a puncture wound of the foot two weeks prior to admission, and a diagnosis of tetanus was made. This was confirmed by locked jaws and spasticity. He was given 40,000 units of tetanus antitoxin intravenously, but went into shock and expired in about two hours.

Case 14—A 14-year-old colored girl was admitted to the hospital June 10th, twelve days after injury to the right elbow. Twenty-four hours prior to admission the neck was stiff and she had difficulty in swallowing. She became progressively worse and was admitted to the hospital where a diagnosis of tetanus was made and she was treated with penicillin, sodium bromide and chloral hydrate and was given 20,000 units of tetanus antitoxin intravenously and the same dose intramuscularly. On June 11th, the patient was still in a critical condition. Sodium bromide and chloral hydrate were increased, penicillin was continued and a total of 80,000 units of tetanus antitoxin was given equally divided between intravenous and intramuscular

method. On June 12th, the patient was much better and was given a total of 40,000 units of tetanus antitoxin and penicillin was continued. June 13th, the patient much better, 40,000 units tetanus antitoxin given. This was repeated on June 14th. June 15th, patient better, 20,000 units tetanus antitoxin given intramuscularly, and on June 16th and 18th, 20,000 units given intramuscularly. On June 20th the dose of tetanus antitoxin was reduced to 10,000 units every other day and penicillin was continued. June 25th, penicillin discontinued, patient discharged as cured June 30th.

Case 15—A 74-year-old white man was admitted to the hospital on September 5th, 1945, with a history of having cut his thumb two weeks prior to admission. One week later he had pain and generalized weakness, and immediately prior to admission to the hospital he had a convolution and stiffness of the limbs, and could not swallow. On admission a diagnosis of tetanus was made and, because of the patient's age, he was given tetanus antitoxin intramuscularly, the dose being 20,000 units every four hours. Penicillin was also started. The following day he was given 20,000 units three times intramuscularly. The following day the patient had what appeared to be a cardiac collapse and had great difficulty in voiding. He did not tolerate an indwelling catheter. On September 9th the patient was quite weak and the following day was generally improved, but he still had a great deal of trouble voiding. On September 11th he went into a coma and his blood urea rose to 84 mgm. per cent. He became steadily worse and expired on September 11th, four weeks after the original injury.

Case 16—This 36-year-old white man was admitted to the hospital on January 29th, 1946, following evulsion of the left thumb near the base. Because of the previous loss of the right hand, it was decided to attempt to save the thumb, though it was hanging by the extensor and flexor tendons. The patient was given tetanus antitoxin and gas gangrene antitoxin, and, under anesthesia, the bone was wired and the skin repaired. The patient was then treated with penicillin and was discharged with no temperature on the third postoperative day to his family physician. Six days after his discharge he fainted and was again brought to the hospital. At this time the thumb was found to be puffy, having a bad odor, and to be gangrenous to the base of the nail. Examination of the fluid revealed tetanus organisms. The thumb was amputated and a large opening treated with large doses of penicillin and antitoxin. An uneventful recovery was made, and the patient was discharged on the 16th hospital day.

Case 17—This 12-year-old white boy cut his hand ten days prior to admission to the hospital. Seven days later, he complained of pain in the back and was treated by his family physician for cold in the back. He became gradually worse over a period of three days when he was admitted to the hospital with a diagnosis of tetanus. At the time of admission, his condition was poor. He was apprehensive, very irritable, stiff and spastic. A diagnosis of tetanus was made and he was given 140,000 units of tetanus antitoxin and the hand was debrided. The following day the patient was given 120,000 units of tetanus antitoxin and was kept quiet. Fever rose rapidly and he expired despite additional tetanus antitoxin, penicillin and sulfadiazine, on the fourth hospital days.

The following conclusions are drawn:

1. The best treatment of tetanus is prevention and the best means of prevention are: 1) active immunization by the use of tetanus toxoid as a part of the immunization routine of childhood; and 2) by means of tetanus antitoxin when a wound at all suspicious has been sustained.

2. The early diagnosis of tetanus is of extreme importance.

3. Large doses of tetanus antitoxin given intravenously and intramuscularly are necessary.

4. Extreme sedation is necessary in the disease and the best means of sedation is by the use of large doses of sodium bromide and chloral hydrate, supplemented with avertin, when necessary.

5. The status of penicillin in the treatment of tetanus has not yet been determined. Primary results seem to justify further investigation.

REMISSIONS IN THYROTOXICOSIS AFTER DISCONTINUING

THIOURACIL

(W. H. Beierwaltes & C. C. Sturgis, Ann Arbor, in *Jl. A. M. A.*, June 29th)

Thiouracil may be used in about one-third of the thyrotoxic patients only as preoperative treatment, since these patients possess nodular goiters which might develop a malignant condition. Another 7% of the total number will require thyroidectomy on account of complications which occur during thiouracil therapy. The most serious of these complications is agranulocytosis; 15% of the patients with thyrotoxicosis will leave the physician's care for reasons of the patient, which are in some instances related to difficulties encountered in thiouracil therapy.

In the remaining 45% of the total group, made up of those with toxic hyperplastic goiter, thiouracil therapy may be discontinued at the end of an average of 10 months with the prospect that 60 to 80% of the patients will experience a relatively persistent drug-induced remission.

For this selected group, at least during the period of observation which has continued to date, this result is as satisfactory as that of subtotal thyroidectomy. The majority of patients with thyrotoxicosis, however, must be treated by surgical means. Those receiving thiouracil must continue treatment with the drug for indefinite periods. For these reasons surgery is still the treatment of choice in the management of this condition.

Thiouracil is superior to iodine, however, as it is more specific in its action and induces a more complete and permanent remission in this disorder. In the treatment of selected cases of thyrotoxicosis, thiouracil treatment must be considered as a form of therapy which has promise, and ultimately it may prove to be as satisfactory as thyroidectomy in this group of patients.

WHEN SHALL WE USE GLUCOSE IN COMA?

(G. E. Anderson, in *Jl. Dig. Dis.*, May)

At what time should glucose be used in diabetic coma? In the classical picture of diabetic coma the liver is depleted of its glycogen.

The first desideratum is re-hydration by electrolytes and fluid plus early massive insulin administration. When, however, the patient has shown even the slightest ability to assimilate sugar then, and then only, should glucose be administered. Glucose is at this time given in liberal quantity to force the individual out of excessive and obligatory fat metabolism and back into carbohydrate metabolism. Gram for gram there is without question in the body of the patient in coma an absolute deficiency in glucose. The glucose which is present is originating from gluconeogenesis, possibly as a homeostatic effort to make up for an actual deficiency. But, the coma patient apparently cannot use even this small amount of newly-formed glucose without massive dosage of insulin and liberal hydration.

No one would quibble over small amounts of glucose early in the treatment—and Peters' dosage might be classed as low. The abuse of glucose is, however, flagrant and unphysiologic. Its abuse not infrequently in grave cases is the straw to break the camel's back.

Peritonitis—and its Treatment *

CHARLES BUNCH, M.D., F.A.C.S., Charlotte, North Carolina

IT IS NOT attempted in this paper to go into the whole subject of peritonitis nor into detail regarding its complications, but rather to discuss the subject as a clinical entity and its treatment in the light of therapy by the newer drugs.

In civilian life, as in the military hospital many miles from the fighting front, appendicitis and peptic ulcer perforation are the most common causes of peritonitis. Occasionally bowel perforation from trauma may be a cause, or peritonitis will result from intestinal obstruction or other development.

In private practice peritonitis in the female may be caused also by salpingitis or dermoid cysts of the ovary, or be observed along with a puerperal infection. Primary peritonitis occasionally occurs in children and has carried with it a very high mortality rate. Tuberculous peritonitis may also be observed, but the cases are infrequent.

Peritonitis usually is not difficult to diagnose. Occasionally the condition obscures the cause. The patient is alert, bright-eyed and mentally clear. The temperature is elevated, the abdomen distended, usually moderately, and abdominal rigidity is confined to the area involved, as is the pain. Vomiting, though present, is not as severe as in obstruction. Leucocytosis is usually marked with polymorphonuclear leucocytes predominating.

Peritonitis may often be prevented by early diagnosis and treatment of the causative factor, whether it be appendicitis or acute specific vaginitis. Early operation in perforated peptic ulcer will prevent the occurrence of generalized peritonitis. Upper abdominal peritonitis, because of the large area of peritoneal surface involved, is characterized by much more toxicity and carries with it a much higher mortality rate, than a lower abdominal or pelvic peritonitis.

Back in early 1940, when the sulfa drugs were first introduced, there was a great tendency not to give enough of the drug. Today the same is true with penicillin, especially in certain parts of the country. If penicillin is to be expected to successfully combat a widespread infection large doses must be given.

In most cases of peritonitis surgery is indicated. If the diagnosis of primary peritonitis is certain in the child, or gonorrhreal peritonitis in the female, surgery is not indicated. Sometimes the diagnosis of these conditions is to be made only at operation. These conditions will respond to sulfa and penicillin therapy.

According to the U. S. Public Health Service reports the mortality rate from appendicitis and its complications was in 1939 15.2 per 100,000 persons. In some states this mortality rate was reduced one-half after the advent of the sulfa drugs. The rate will be still further reduced by penicillin therapy. In 1937 primary peritonitis had a mortality rate of 85 per cent. Many more recoveries have been reported since the introduction of the sulfa drugs.

The treatment of perforated peptic ulcer is immediate laparotomy, with closure of the perforation if the condition of the patient permits. If seen early operation should not be delayed longer than to treat the initial shock, if present. If seen later, fluids, saline, glucose or transfusions may be indicated and if peritonitis is generalized and existing for days, chemotherapy and large doses of penicillin may be indicated before operation. In appendicitis with peritonitis the time of operation must be governed by the condition of the patient and the extent of the peritonitis.

While on the Surgical Service of U. S. Navy, Base Hospital No. 8, Pearl Harbor, T. H., I had the opportunity of treating many patients for peritonitis. These patients largely came in from small vessels of the fleet without doctors aboard and had spent many days at sea. Some had received penicillin before coming into the hospital. Nearly all had had sulfa drugs. Very few had had purgatives. Most of these cases resulted from appendicitis with perforation; an occasional case from perforated peptic ulcer. A few cases were seen with perforated or torn bowels from abdominal trauma or gunshot wound.

In the presence of peritonitis absorbable (catgut) sutures are preferable to non-absorbable (silk or cotton). Before the abdomen was closed 4 to 10 grams of either sulfanilamide or (preferably) sulfathiazole was scattered in the infected area of the peritoneum and a little was sprinkled in the incision. The abdomen was not drained unless there was marked fecal contamination or frank abscess formation.

Post-operatively the patient was placed in the Fowler position usually, and received almost routinely 25 or 30 thousand units of penicillin every 3 to 4 hours hypodermically. He also received 100,000 units of penicillin in 1000 c.c. of 10 per cent glucose solution in normal saline intravenously. Six to eight hours later he again received in a vein 1000 c.c. of normal saline solution, to which

*Presented before the Union County Medical Society, meeting at Monroe, N. C., June 10th, 1946.

was added 5 grams of sodium sulfadiazine and 100,000 units of penicillin. Usually these intravenous solutions were repeated the next day. Due to the improved condition of the patient usually observed rarely was it necessary to give any additional intravenous injection. However, the schedule was continued if necessary. The intramuscular injections of penicillin were continued for 4 or 5 days, or longer. In a few cases we gave larger doses of sulfa drugs by mouth to patients who were able to retain them.

If the temperature was not consistently normal at the end of 10 days or two weeks the patient was examined, and search made for suspected abscess. Examination of the pelvis by the gloved finger in rectum sometimes would reveal a tender mass or induration, the hypodermic injections of penicillin were continued, and the patient left alone for a few days longer. When the mass became well walled-off it was drained by the rectal route. Very few cases of subdiaphragmatic abscess were seen. For abdominal distention or vomiting the Miller-Abbott tube and Wangensteen suction was unhesitatingly used.

The large amounts of penicillin administered (in some cases more than two million units) seemed entirely justified by the fact that in a hospital of over 1000 beds there were no peritonitis deaths during the hospital existence.

Patients were, of course, treated for all complication and sequelae including dehydration, anemia, distention, vomiting, toxemia, hypoproteinemia, paralytic ileus, pulmonary congestion, etc. Spinal anesthesia was used in almost every case. In a few of the most severe cases of peritonitis three to five hundred thousand units of penicillin was placed in the peritoneal cavity along with the sulfa drug.

Realizing the danger of anuria from sulfa therapy, a constant check was made on the urinary output by measuring intake and output of fluids and daily urinalysis. A complete blood count and hemoglobin estimation were made at least twice weekly, also, in order to learn immediately of sudden blood changes.

No reactions of any consequence were seen from penicillin even following large doses. In a few instances a mild rash was noted, but not severe enough to warrant discontinuance of the medication if it was still needed. Krauel recently reported a similar reaction but with more marked rash and fever and in his case a swollen and red knee. The symptoms subsided when the drug was discontinued. The case was one of gonorrhreal urethritis, which leaves this type of reaction open to question. We observed cases in which fever persisted after the clinical signs of illness disappeared, only to have the fever subside when the penicillin

was stopped. Penicillin seems to have no harmful reactions even in large doses.

Early ambulation is emphasized. By allowing patients to at least sit up just as soon as their condition warrants, the dangers of phlebitis and pneumonia are certainly materially lessened.

The Miller-Abbott tube with Wangensteen suction is also indicated in the nonoperative case of peritonitis to minimize vomiting and distention.

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POST-MEASLES AND POST-MUMPS ENCEPHALITIS (S. L. Arey, Minneapolis, in *Jl. Lancet*, June)

Encephalitis may follow any of the contagious diseases. After measles the onset is two to seven days following the appearance of the rash, manifested by a) convulsions followed by coma in 50% of cases; b) listlessness, drowsiness, and coma in 40%; c) delirium, irritability, and excitement in 10%.

The spinal fluid is clear, pressure normal or increased, with a moderate increase in the cells, majority lymphocytes. The protein is increased, sugar either normal or low. The spinal fluid may be entirely normal. Litvak says that fatal cases are likely to have a normal or only slightly elevated cell count. In favorable cases the temperature gradually subsides, the neurologic symptoms disappear, and the patient makes a good recovery.

In mumps encephalitis the onset may precede the parotid swelling or may follow it by several days. There are fever, headache and vomiting; convulsions and coma are exceptional. The spinal fluid findings are undistinguishable from those of poliomyelitis.

Measles encephalitis has a mortality rate of 32% in hospitalized cases; in all cases of 6%. Of 10 patients four will completely recover, two will die, and four will have one or more major or minor residual symptoms.

Litvak observed that no cases of encephalitis occurred in patients who had received prophylactic convalescent serum, whole blood, or placental extract.

Putnam, who thinks the fundamental difficulty lies in some disturbance of the clotting mechanism of the blood, suggests heparin therapy. He believes that serum and intravenous medication of any kind are contraindicated, as similar encephalitides may be brought on by administration of sera.

Hamilton and Hanna believe that shock therapy in the form of intravenous typhoid vaccine gives the best results.

Others used sulfapyridine and intramuscular blood in treatment.

The therapy of mumps encephalitis is entirely symptomatic. Spinal drainage may be useful in relieving headache.

BALDNESS TO BE ENDURED CHEERFULLY

(A. A. Thomen, New York, in *Readers' Digest*)

There are only two known remedies for most baldness: (1) choosing the proper ancestors; (2) enduring it. Many will ask, If baldness is inherited, why are not women equally affected? Intensive research has answered this by revealing that baldness is a pure hereditary trait, dominant in men, recessive in women. The mother can trans-

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

THE MOTE — THE BEAM?

WHILE Governor William Munford Tuck, of Virginia, was indulging in a brief vacation early in July, a telegram came to him as Governor of the ancient Commonwealth from Owen Josephus Roberts, of Philadelphia, as President of The National Mental Health Foundation. The message from the one civic dignitary to the other was provoked by a tragedy in the Western State Hospital at Staunton, Virginia. In that hospital, one of the oldest mental hospitals in the United States, a patient died a few months ago, unexpectedly, only a few hours after his admission. The superintendent had reason to fear that the patient's death might have been caused by the brutality of the attendants in charge of him. The superintendent reported the unhappy circumstance to the coroner. The investigation, promptly initiated and vigorously carried out, caused at least three men attendants to be indicted for killing the man. One of the attendants has been tried and convicted. The two other attendants are awaiting trial.

I believe that two of the attendants involved are so-called conscientious objectors. One of them is said to be a patient of the Western State Hospital who was thought to have recovered but who has not been discharged as such, and who is still a legal patient of the hospital.

Every effort has been made to ascertain the cause of the patient's unexpected death, to find out if he died in consequence of injuries inflicted upon him by the attendants, and to bring the attendants to trial if any were thought to be guilty of a crime so barbaric. The proper authorities of the state have been neither negligent nor lacking in diligence. The situation could not have been dealt with more commendably if the prosecutor had been the Honorable Owen Josephus Roberts himself, once Associate Justice of the Supreme Court of the United States of America, now living in otiose retirement in the city of Philadelphia, while his judicial successor functions as a member of the nation's highest court.

The *Times-Dispatch*, of Richmond, carries in its issue of July 6th lengthy quotations from the telegram of Mr. Justice Roberts to Governor Tuck. The Governor is actually told by Justice Roberts that "the legislature and government officials of the state of Virginia must also bear the guilt for the barbaric treatment of patients at Western

State Hospital." How must Governor Tuck and other high officials of the Commonwealth of Virginia now feel after having been informed of their responsibilities by a so recent member of the United States Supreme Court?

I shall let Justice Roberts' telegram to Governor Tuck speaks at length for itself:

"Virginia hospital officials are not by any means totally to be blamed for such inhuman treatment because in most cases they are not given the wherewithal to effectively do the jobs for which they are appointed. They cannot hire trained personnel because such persons will not work for the starvation wages which the State of Virginia pays their attendants.

"Hospital officials may have the best interests of their institutions at heart, but if they are not given sufficient appropriations and adequate staffs to cope with the perplexing problems with which institutions of this type have to deal, no improvement can possibly be made.

"It is the hope of the National Mental Health Foundation that the State of Virginia, which has taken the initiative in uncovering such deeds of violence to patients, will also accept the responsibility and initiative for cleaning up the depressing hospitals, increasing inadequate staffs, and improving treatment and training facilities.

"The fact that testimony at the trial revealed that many cases of this type had occurred before, not only at Western State, but as the records of the National Mental Health Foundation in Philadelphia reveal, in many mental institutions throughout the United States—and 'are hushed up at the source'—only indicates more strongly the pitiful state of mental institutional life."

One is obliged to wonder how much Justice Roberts may know of the history of psychiatry in the United States. If he were familiar with such history, he would know that the Colony of Virginia, in pre-Revolutionary days, took steps to provide care and treatment for the so-called insane by establishing at Williamsburg an institution that has come to be known as the Eastern State Hospital. It would seem to be in rather poor taste for a former member of the Federal Judiciary to be speaking to the officials of the State of Virginia about their duties to the state's mental patients. Virginia, creator of our nation's first mental hospital, is equally as able to do any necessary cleaning up as our progenitors were to do pioneer psychiatric creative work.

I am not an official of any kind of the State of Virginia. But I am proud of my citizenship in the old Commonwealth; and proud, too, that my three sons are Virginia-born. Once, for a number of years, I was a member of the State Hospital Board of Virginia. And once I was a member for

a few happy years of the medical staff of the North Carolina State Hospital at Morganton. I become more and more vexed by the modern economic philosophy whose most vocal and persuasive advocate proclaimed unceasingly that the Promised Land could be reached more quickly and more surely by the labourer's laboring less and less and being paid more and more. Many of our woes—pray they may be momentary—have their origin in the unhappy and impossible attempt to transform the north bank of the Potomac into the east bank of the Hudson. The delusion that that geographic and economic impossibility may yet become an actuality still constitutes a Star of Hope for many witless people; and until the Star goes out their conduct will remain irrational.

Some of us in our youth lived in Philadelphia as medical students. Former Justice Roberts was born in that city and he has spent his life there, except for the two or three decades when he lived in Washington as a Federal official; and, finally, as Associate Justice of the United States Supreme Court. One may wonder why he does not remain on the bench still, instead of burdening the tax payers with the continuation of his own salary and with that of his judicial successor as well. If he is still sufficiently vigorous to enable him as President of the National Mental Health Foundation to exercise episcopacy over the treatment and the care of all the patients in all the mental hospitals in our country, his psychiatric labours and responsibilities may become even greater than his judicial labours ever were.

One may wonder how far back in his life Justice Robert's concern about the functioning of mental hospitals reaches. In my student days in Philadelphia, Dr. John Chalmers Da Costa, the surgeon and genius, never hesitated to tell the people of his native city, vocally and scriptorially, how vilely, and with what profit to themselves, the politicians managed old Blockley Hospital, and the city government in general. Justice Roberts has been a lawyer in Philadelphia for almost fifty years. For several years, when a young man, he was assistant prosecuting attorney of Philadelphia County. I wonder if the record would disclose any evidence that he proceeded against those city officials whom Dr. Da Costa designated as thieves and robbers.

While I was living in Philadelphia, the State of Pennsylvania erected at Harrisburg a new capitol building. Was it expected to cost one million dollars? Did it finally cost the citizens of the Commonwealth eight, ten, or fifteen millions? Older citizens recall the scandals associated with its creation. And did we not hear as students, come up from the rebel South, that Philadelphia's City Hall was in process of building for a generation follow-

ing Appomattox, and that the city's political plunder-bund lived fat upon the repeated prodigal appropriations? Did Justice Roberts turn a hand or lift an eyebrow about the capital scandal at Harrisburg; or, in retrospect, about the municipal debauchery at Market and Broad—the City Hall?

In more recent years the city government of Philadelphia was thought by many people to be in need of even more cleaning than the streets of the old city, about the sweeping of which there was much scandalous talk. Did Justice Roberts, a citizen of Philadelphia, bestir himself in an effort to make Philadelphia wholesome? I can not associate his name with any reformatory movement in Philadelphia.

A mistake is made in focusing the examining civic microscope upon a field so small as that of the State Hospitals in the nation. The democratic form of government is on trial. We boast rauously and in unseemly fashion of its virtues. Conclusive proof is lacking that democracy is keenly and courageously interested in perfection. The democratic philosophy gives the citizen, wise or foolish, equal opportunity to participate in the management of the most complex and the most delicate and the most difficult of all man's creations—the art of government. Until the citizenship reaches a higher level of intelligence and becomes possessed of more civic courage and a greater degree of patriotism, the nation's mentally sick, the educational system, and the level of official integrity are not going to be improved.

But the care of Virginia's mentally sick is the responsibility of Virginians; not of Philadelphians. And the mental patients will be cared for no better merely because the hours of work and the compensation of workers—nurses, attendants, doctors—are shortened, the one; and increased, the other. Money is now in the saddle. The delusion prevails that virtue and loyalty and self-sacrifice can be bought and paid for with money—much or more of it. The care of the sick has become a business; therein lies the tragedy of the day. Once the nursing and the medical care of the sick, sane and insane, was a calling, a high calling. Until such care again becomes such a calling patients will suffer.

Look not upon the clock in ministering to the sick. Nursing and medicine and all other aspects of our so-called civilization must be born again.

"Let him - - - throw the first stone."

VACCINATION AGAINST INFLUENZA

(Gos. Stokes Jr., Philadelphia, in *R. I. Med. J.*, June)

Two types of epidemic influenza thus far have been identified by means of determining their etiologic agents—influenza A and B. Since the identification of the virus agent in 1933, epidemics of influenza A have appeared at two- to three-year intervals; epidemics of influenza B have appeared at four to six-year intervals following its

identification a few years later.

If influenza A is related to pandemic influenza which it probably is, then we appear to have developed over a period of years a means of vaccination which will at least partially control such pandemics. Our studies beginning in 1935 early suggested that vaccination with active or inactivated preparations of influenza A virus was successful in protecting a large proportion of those vaccinated. Vaccination against influenza A and B appears to be increasingly successful, but a considerable period of time will be required before the best methods of active immunization have been attained.

Many epidemic diseases of childhood gradually immunize the general population, by apparent and inapparent cases, and leave in passage considerable amounts of antibodies in adult plasma. When such adult plasma is pooled from thousands of individuals it probably contains fairly uniform titers of antibodies, the changes in which, if readily measurable, afford an index of epidemic trends in certain diseases.

Gamma globulin from fractionated pools of plasma concentrates and preserves such antibodies in a readily usable form, which thus far apparently has been free

The amount of specific protective antibodies in the gamma globulin and their effectiveness against each epidemic disease must be determined in each disease. In certain epidemic diseases they are highly effective.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

EASY COME EASY GO

THE AUTHOR never thought he would live long enough to see the day when hospitals collected practically all for every patient that they rendered service; but the day has arrived, and with it a great tendency to spend hospital funds on the part of those who operate hospitals. The rainy day cannot be continually postponed; and this should certainly be recognized by thinking people.

Every hospital that I am acquainted with is clamoring for more bed capacity. A good many of them are enlarging, purchasing new sites for new hospital buildings, or enlarging nurses homes. But far too few are putting away for this inevitable rainy day. The value of a hospital's dollar should be based upon the ability of the hospital to collect that dollar. If the hospital rendered \$50,000 worth of service in 1934, it did well to collect \$30,000. That same hospital today would collect more than \$49,000 of that \$50,000. Therefore, on the face of it, the hospital could spend \$50,000 in 1946 as easily as it could spend \$30,000 in 1934.

When one considers these facts he must see that a hospital's ability to enlarge its physical plant is greater today than it was in 1934. Because it not only collects for services to almost all of its patients, but is running full all of the time; whereas 65 per cent occupancy in the old days was average. This extra 35 per cent makes a tremendous dif-

ference in any financial report.

Another situation to be considered is the willingness of those who set salaries to allow the overhead to increase enormously. At a fair estimate, we now have five employees where we used to have three to look after the sick in a hospital. The ratio of employee to patients has grown enormously in spite of the fact that the graduate nurses' personnel has dwindled to an alarming degree. It makes little difference, however, in the auditor's report whether the money is spent for maids, orderlies, clean-up boys, cooks, or professional nurses; so long as it is spent it cannot be used again to make permanent improvement in your physical plant.

It would seem good judgement for hospital trustees and supervisors to think of their permanent assets especially while those assets could be used to such a goodly per cent of profit. One more private room to be let at eight dollars per day; might cost the hospital \$3,000, but the revenue from that room would be \$2,880.00 a year, if continually occupied. This, of course, is not all profit, but taking into consideration the added expense for that room, since it requires no new kitchen, no new refrigeration, and, perhaps, no new nursing personnel, it would certainly be \$1,000 per year. In three years the room would have paid for itself. What other building program would pay for itself in three year's time? It would be the judgement of the writer that practically all of the enlargement should be private rooms' accommodation, because almost half of the semi-private and ward patients of yesterday are private room patients today. The hue and cry is not for ward beds by the patients, but for beds in private rooms.

Some will argue that building cost is too high and that material is too hard to get, both of which are true if it were ordinary times so far as money is concerned. As to material we are fortunate in that we can obtain a priority, which helps immensely. There is no better time to spend money than when you have it. There is no easier way to allow the money to slip through your fingers than to try to hold it in a bank account. This is particularly true when it is community money or company money. No matter how conscientious or how conservative one tries to be, this "come easy" money will get away for non-permanent uses. Even if all of the materials cannot be obtained to complete the inside job, the skeleton frame work could be done and a top put over the enlargement or new building job, whichever the case may be. Then, in an emergency, at least it could be used for storage allowing some of the storage room in the first building to be set aside for patients.

In any case, it is far better to have your funds permanently sunk in a brick or concrete wall than

will eventually be finished than it is to have it slip through your fingers as will almost surely be the case if you do not spend it in this way.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

PLASTIC AND DENTAL PROSTHETIC REPAIR OF JAW INJURIES

TEAM work by a plastic surgeon and a dental surgeon in the Navy is the basis for the article which is here reviewed and abstracted.

The early treatment of compound jaw injuries should be conservative. Fractures must be immobilized and soft tissues sutured so as to convert the lesion into a closed wound; grossly devitalized tissues should be debrided, but with conservatism; bone fragments should be left in place. All preserved structures will be of inestimable value to the plastic surgeon who will finish the reconstruction. Pre- and post-operatively, penicillin and sulfadiazine in adequate dosage are imperatively demanded.

The late management of maxillo-facial injuries comes under the headings of soft-tissue injuries, bony injuries, and dental prosthetic replacements.

In planning the repair of soft-tissue injuries one should always use facial structures insofar as possible.

Fractures of mandible and maxilla require early accurate reduction and immobilization by interdental wiring. External pin fixation is rarely indicated except when dealing with a fracture of an edentulous mandible. The complicated external fixation apparatus attached by means of a plaster of paris skull cap has little practical application.

Indications for open reduction are chiefly faulty or non-union and loss of bone substance. One must be careful not to enter the oral cavity while carrying out the dissection.

If a mandible cannot be reduced accurately by customary means deformity of the jaw and malocclusion of the teeth will occur, necessitating late open reduction, which is never as satisfactory as early open reduction. The fragments can usually be immobilized by loops of stainless steel wire placed through the broken ends of bone, or by metal-pin fixation through the body of the mandible.

Fractures of the coronoid and condyloid processes demand early accurate reduction.

The commonest indication for open reduction of the mandible is loss of bone substance. Prior to this one must prepare the soft tissue bed for the bone graft and the dental associate must construct and apply a secure fixation apparatus to the remaining teeth to hold the bone fragments so that

¹ Capt. P. W. Greeley (MC), USNR, & Comdr. A. E. Pound (DC), USNR, in *III. Med. J.*, May.

the teeth will articulate normally. For source of bone graft the iliac crest is preferred.

The dental prosthetic appliances found necessary are fixation appliances for fracture reduction and bone grafting and permanent appliances to replace missing structures and as aids in plastic repairs.

External pin fixation is avoided because of the discomfort, the frequency of failures and because of the comparative ease with which internal fixation appliances are worn. Use of external pin appliances is limited to a few edentulous cases and those in which internal fixation cannot be applied. For internal fixation metal splints have been our choice because of their positive action, cleanliness and extreme flexibility of design.

If teeth are present in both segments in many cases interarch wiring may be dispensed with completely. In case there are no teeth in the proximal fragment immobilization may be accomplished by combining a sliding rod in one of these splints. The splint is bolted to the teeth of the distal portion, the proximal stump manipulated into its correct position, the pointed metal rod inserted through its sleeve and on into the soft tissues and bone of the proximal portion. The rod is then locked with a set screw.

The immobilization of segments of the mandible prior to the insertion of bone grafts is best done by the metal splint. There is no limit to its use in conjunction with interdental wiring, orthodontic appliances, etc. The construction of these splints requires an accurate impression of the teeth and their surrounding tissues with good models of both arches so that occlusal interference may be prevented.

The construction of permanent dental prosthetic appliances requires an open mind, a will to do, patience and skill. Appearance, function and clearness of speech are all at stake. After plastic revision of the soft tissues and bony structures, three problems remain: the reshaping of the tissues within the mouth, the replacement of the missing teeth, and the restoration of other lost intra-oral parts.

The replacing of the missing teeth is the most difficult feature of our work. The replacement includes restoration of portions of the palate and the closing off of sinus defects and postoperative cystic cavities, with obturators attached directly or indirectly to the dentures.

Supplying the stent mold for the intra-oral skin grafting, replacement of missing teeth and restoration of other lost intra-oral parts are all frequently done in one operation.

AND THIS IN NEW YORK?

(*N. Y. Physician*)

Recently an elderly patient whom I was treating for diabetes complained bitterly that her daughter in New York City had gone to a G. P. because of a skin rash, was

immediately referred to a specialist on skin diseases, and she had had to go to the specialist three times before he had made a diagnosis of chickenpox! The total cost, ten dollars for the initial visit and five dollars for each additional. She was quite convinced that in our rural community one visit at a cost of three dollars would have taken care of the whole matter.

GYNECOLOGY

ROBERT T. FERGUSON, M.D., *Editor*, Charlotte, N. C.

REVIEW OF THE FINDINGS IN 1600 WOMEN EXAMINED AT THE CANCER PREVENTION CLINIC

WE READ much from enthusiasts about how easy it would be to do away with cancer if people from middle age onward were examined periodically with cancer in mind.

A report¹ from Chicago gives some statistical evidence from which one may learn just about what could be expected of such examinations of women.

Only apparently well women are accepted for examination. Whenever the inquirer states that she has any symptom whatsoever, she is urged to consult her own physician at once, and not to wait for a clinic appointment several months hence. When the examination is completed this clinic has no further contact with the patient, she is either discharged or referred to her own physician for observation and treatment.

In the first 600 cases examined there were 10 proved cases of carcinoma of the breast. In the next 1,000 cases not one obvious carcinoma was found, and only 11 women for whom biopsy was requested. No cancer has been reported in this group. This apparent discrepancy is due to the fact that, contrary to plan, some of the patients in the first group had known symptoms which brought them to the clinic. When the clinic was new, and patients could be seen promptly, a few with symptoms obtained appointments. Now, with the appointments filled for five months in advance, such individuals are urged to see their own physicians without delay. Furthermore, there may be malignant growths in the second group that have not been reported by the private physician.

In the second group 42 women came in for breast examination because of previous surgery. These were for the most part women who had moved away from their family physician, or whose physician was in service. The family physician had instructed as to the importance of having the condition checked at regular intervals. The number of biopsy scars (27) present also indicates that the general practitioner is on the alert for carcinoma,

and is making a sustained effort to establish an early diagnosis.

In the first 600 women examined there were only 99 who admitted any complaint referable to the generative tract. In the next 1,000 examinees there were 285 pelvic complaints elicited on close questioning, and many of these were multiple in the same patient.

A bimanual examination, and visualization of the cervix was done in the course of the general physical examination. An aspiration of the cervical secretion was taken for a special Papanicolaou strain for cancer cells. Cervical and urethral smears were made in all cases. Hanging drops were studied, when indicated, for motile organisms. No specimens for biopsy were taken. A second examination was made by a consultant gynecologist on all cases in which there was any deviation from the normal.

Of the first 600, the cases of lacerated or hypertrophied cervix numbered 16; of the next 1000, these cases were 101. The figures as to erosions were 73 and 126, respectively. It is of interest that trichomonas with symptoms was found to exist in only 25 of the 1600 cases.

The lacerated cervices with hypertrophy indicate only trauma of childbirth. Of the 199 cases of erosion many consisted of a slight redness around the external os, and only a few needed treatment. Of 126 erosions in the last 1000 women examined biopsy was advised in 13. Reports received to date from private physicians have not indicated that any cervical carcinoma has been found.

Of the 41 fibroids discovered in the last 1000 cases, 16 were of such size that surgery seemed indicated.

SURGERY

THE IMPORTANCE OF AUTOPSY IN DEATHS ON THE OPERATING TABLE

WHEN such a death occurs it is frequently impossible to tell its exact cause, and it is apt to be classed as cardiac failure, respiratory failure, or shock. Brown¹ says this may be due to fear of the unpleasantness of a coroner's inquiry and a publicity which may lessen confidence of the public in the hospital, or the surgeon and anesthetist concerned. Consequently little endeavor is made to obtain permission for an autopsy. He goes on to cite cases proving the need for autopsy in such a case.

In 1934, the Honorary Staff of the Royal Adelaide Hospital appointed a Subcommittee on Anesthesia.

¹. Gilbert Brown, Adelaide, Australia, in *Anesthesia & Analgesia*, May-June.

thetic Fatalities to inquire into all deaths occurring under anesthesia. The scope of inquiry was later increased to include deaths in which the anesthetic may have been a contributing factor. In an analysis of the first 76 deaths inquired into by this Subcommittee there has been an autopsy in 26, a partial examination in one and a partial examination on the table in one. In five of these cases the postmortem examination has shown the cause of death to be some condition that was quite unexpected.

Of these 76 deaths, 48 occurred during the operation and 28 at some time from a few minutes to eight days afterward.

Case 1. Boy, aged 13½, was admitted to hospital complaining of pain in his left side 3½ weeks previously, while trying to jump a fence, he fell and hurt his left side. He remained in bed for a week and then returned to school. Four days later he went back to bed and remained there until he was taken to the hospital. He was given ether by the open method for an exploratory laparotomy for (?) enlarged spleen. A large abscess was found connected with a perforation of the stomach and adhesions to the spleen and omentum. The abdomen was drained. As the wound was being closed, respiration ceased permanently. Autopsy showed a massive pulmonary embolus at the bifurcation.

Case 2. Man, aged 58, fell on his right hip and shoulder and fractured the neck of his femur. Ethylene and oxygen was given on the same day for reduction and fixation of the fracture. His condition was good under the anesthetic, except that he was once cyanosed for a short time. After the operation had been in progress for 25 minutes, his respiration ceased suddenly and resuscitation was unavailing. Autopsy showed fat embolism of the capillaries of the lung.

Case 3. Man, aged 30, was driving a lorry which crashed into the back of a tramcar; tons of merchandise fell forward, pushing the cabin of the lorry upon him. He was admitted to hospital suffering from fracture of the lower jaw and of the right clavicle, and lacerations of the chin, inside the mouth, of the tongue and below the clavicle. An anesthetic was given in order to suture the lacerations and to control the bleeding, induced with ethyl chloride and ether and followed by ether by the endopharyngeal method through a nasal catheter. Free bleeding from the lacerations in the mouth required the use of continuous suction. Anesthesia was light, after 50 minutes so light that the patient had to be restrained. The mask was reapplied and ether dropped on it, in addition to that given through the nasal tube. While the patient was struggling the respiration suddenly ceased, the patient became cyanosed and died.

Autopsy disclosed a fracture dislocation of the

odontoid process. It is probable that this fracture was dislocated forward during the struggling immediately prior to this death and that death was due to pressure on the medulla. The fracture was unsuspected and no precautions were taken as to moving his neck.

Case 4. Woman, aged 26, was given nitrous oxide and oxygen in the Out-Patient Department for a pelvic examination. The anesthetic was begun with 95% nitrous oxide and then changed to 80% with a little ether. Eight minutes after the anesthetic began, the respiration ceased, "Color went off to blue" and the patient died.

Autopsy disclosed acute pulmonary edema with irritation of the bronchi and trachea which were filled with frothy mucus; there was 10 ounces of blood in the heart and great vessels and intense venous congestion. Death was due to acute pulmonary edema caused by anoxia.

In this case there was a history available which might have averted the calamity; unfortunately it was not inquired into. At five this patient had an injury to the lower jaw which resulted in ankylosis at the condyle with only a very small separation of the teeth. This caused lack of growth in the mandible so that, as she grew older, the lower jaw was small and undershot. From time to time she had operations on the condyle, excision of the condyle, removal of a wedge of bone from the angle of the jaw, removal of an unerupted molar by external incision; also an operation for separation of the soft parts over the chin and an epithelial inlay to allow a large mould of dental compound to be introduced and give prominence to the chin. Six months before her death she was given an anesthetic for operation on her antra; but it was found that the teeth could not be separated enough to insert an airway or to pack the throat and the operation was abandoned. She had at least 10 operations under general anesthesia. On each occasion the administration of the anesthetic was difficult owing to the position of the jaw, the inability to separate the teeth and the lack of full muscular control of the tongue. Sometimes oxygen was given under the ether mask and it was always necessary to hold the tongue with forceps during the induction. This traction was either continued throughout the operation or else an endotracheal tube was passed. It was usually possible to intubate by the blind method through the nose.

Case 5. Patient, aged 58, a diabetic, sugar under control. An anesthetic was given for a drainage of an abscess in the neck; 8 c.c. of ethyl chloride was followed by ether on open mask. After 10 to 15 breaths of the ether vapor, the respiration suddenly ceased.

Autopsy. There was a large abscess in the neck which was an extension of an abscess round the

front and left side of the lower cervical vertebrae. The body of the sixth cervical vertebra was represented by a cavity filled with pus. The sudden cessation of circulation and respiration was probably due to sudden pressure on the spinal cord, caused by giving way of the shell of the vertebral body and so leading to undue mobility of the head and neck when the muscles were relaxed by the anesthetic.

The foregoing data show that death on the operating table is frequently due to causes which were not suspected until disclosed by a postmortem examination. In the absence of an autopsy, many deaths have been wrongly classified, entailing a falsification of statistics and a loss to medical research. In the list herewith given of the causes of death in a series of 76 cases it is more than probable that some of them were wrongly classified, a state of things which might have been prevented had an autopsy been performed in each case.

ANESTHETIC FOR MINOR CASES

In the midst of the clamoring forth of the "miraculous" powers of all sorts of new anesthetics for administration by inhalation, by vein, by spinal canal, by rectum—by any route—Dill¹ utters a word of praise for the century-old, and nigh as long discarded, chloroform-ether mixture.

True, he adds a V to the EC, but even then it's a matter of astonishment. And he seems to make out a good case for the modification of this agent, hoary with age; yet, with the added V (not for vitamin, either), it would seem, able to more than hold its own with new-comers in a large field of surgery.

In many cases there is real value in an anesthetic which is quick and powerful and yet safe and pleasant. Dill has been using a modification of the once popular chloroform-ether mixture during the past five years in 2500 cases, with minimal complications and no mortality.

Cases are those of short duration (10 to 20 minutes); operations on athletes and alcoholics; surgical procedures on patients with respiratory complications; closed reductions; teeth extractions; operations for incision and drainage; Ludwig's angina; introduction of an intratracheal tube; and tonsillectomies for induction preliminary to plain ether. Dill has used CE with increasing satisfaction for teeth extraction in the dental office. It is fast and pleasant, relaxes the jaw, and lasts long enough for uncomplicated extraction of a dozen or more teeth. The chair need only be slightly tilted backward. Recovery is quick and rarely followed by nausea. In short cases the effect upon the liver and other organs is negligible.

¹ L. W. W. Dill, Norristown, Pa., in *Anes. & Analg.*, May-June.

He has called this modification of the CE (chloroform-ether) mixture, the VCE mixture. It is composed of equal parts of vinethene, ether and chloroform, with a drop of oil of peppermint. The mixture should be fresh, or evaporation might alter the composition, increasing the proportion of the chloroform. Only two ounces should be made up at a time.

The slow drop method is used (25-50-75-100), drops per minute on an open mask, such as Es-march's or Yankauer's, with six layers of gauze. No limitation of oxygen is permitted. Accurate graduation of drops is obtained from a dropper made for the writer by Pilling of Philadelphia. This has vents and an adjustable knurled screw regulating the drop.

Safety in administration of the anesthetic is assured by preserving the eyelid reflex, a good color and regular respirations. This can be maintained and relaxation of the jaw obtained, but skill and close attention are required. For premedication, an adequate dose of atropine is desirable. For hospitalized and nervous patients, a short-acting barbiturate is also helpful.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

RESUSCITATION

EVERY physician, regardless of his specialty, is apt to be called on to save a life, and he must know how to carry out the procedure himself and must not depend on a voluntary rescue squad, fire department, or other lay group. So that sensible doctor, Gorrell¹ of Iowa, begins his plea for immediate, intelligent care in emergencies.

The technique used is, he well says, less important than the determination of the physician and his assistants to stay with attempted resuscitation for a minimum of several hours. The simplest technique over a long period of time is Eve's rocking method; until a board or door can be obtained on which to rock the patient, he may be tilted by two men or may be treated by the Schaefer method.

In the operating room the use of the oxygen breathing bag and face mask is very effective. The bag is compressed rhythmically by the hand and the mask held snugly against the face, thus inflating the lungs.

Artificial respiration need not be given at precisely regular intervals. A regular rhythm should be adopted, but not to the point of burdensome counting, and of neglecting the patient's first attempts at respiration.

The simplest method is mouth-to-mouth breathing; some physicians are concerned about introducing

¹ R. L. Gorrell, Clarion, Iowa, in *Anes. & Analg.*, May-June.

ing bacteria into the respiratory tract. All of us are continually inhaling contaminated air. It is important to remember that the patient would rather be alive and in possession of a few organisms than to be dead from a sterile procedure.

In such an emergency the establishment of the heart function is brought about through the restoration of breathing. This is due in the first place to persistence of the heart beat long after respiration has ceased. Secondly, there are few effective cardiac stimulants. Thirdly, it is much easier to restore respiration. Fourthly, changes in intrathoracic pressure increase the volume of blood returning to the heart, thus indirectly stimulating it.

It has been necessary to interrupt procedures or deliveries to employ artificial respiration. Some surgeons are reluctant to contaminate their sterile gloves and gowns, and thus delay a few moments of time precious to the patient, while a nurse or intern is attempting to compress the chest.

Every physician should fight for his patient's life, and not give up the struggle until every resource has been exhausted. Every physician should know a few simple methods that can be applied anywhere, and have the initiative to step in, the knowledge to care for an emergency, and the determination to play the game to the end.

NIGHT CRAMPS IN YOUNG MEN

WHEN we consider how frequently a patient or a member of the family complains of painful muscle cramps, it is remarkable how little help is offered by publications, old or new. In a vague way it is suggested that calcium may do good. A doctor-patient who complained bitterly of frequent cramps in the hand and feet muscles, advised to try calcium, responded with a wry smile, "I drink more than a quart of milk every day, and eat lots of cheese."

We are going to give the recommendations of two Army doctors¹ a hopeful trial.

This condition is usually seen in middle-aged and old people. A typical picture is that of a person free of symptoms during the day who is awakened by cramping pain in one or both legs. The calf muscles (any muscle group in the lower extremity may be involved) are hard and tender. Vigorous rubbing of the leg or hopping about gradually relaxes the muscles, or at least they relax, but often soreness lasts for hours.

Quinine reduces the irritability at the myoneural junction and so decreases the number of stimuli that can reach the muscle fibers. For this reason it has been used for the abolishment of night cramps, and with success.

The average age of the 23 patients studied was

24 years. There were two cases of old, deep, venous thrombosis; one old fracture of the right femur with bowing; 12 of static foot deformity (the most frequent predisposing disorder); and eight cases in which no disease could be found. There was no evidence of arterial disease. After three days of bed rest there was disappearance of cramps in two patients who were hospitalized, with reappearance within 48 hours of being allowed up.

First was prescribed 0.2 Gm. (3 gr.) of quinine sulfate, later increased to 0.32 Gm., at night before retiring. No other medications were used. No attempt was made to correct static foot deformities or varicosities. All the men kept up their normal activities.

Out of 23 cases 17 obtained complete relief. Of these four had recurrences within two weeks after stopping the medication but obtained relief again when quinine was given. In three patients the cramps became less intense and less frequent. Increasing the dosage had no added effect. No relief was obtained for three patients.

TUBERCULOSIS

J. DONNELLY, M.D., *Editor*, Charlotte, N. C.

SURGICAL EVOLUTION OF TUBERCULOSIS THERAPY

TO most of us it will be news that Hippocrates suggested that artificial pneumothorax might prove a valuable therapeutic measure; also that an English doctor of a century and a quarter ago predicted so accurately what was to come about after a hundred years interval.

We are indebted to Jacobson¹ for the information to follow.

In 1679 de Blegny reported a cure of tuberculosis following a sword thrust into the chest. In 1696 Baglivi reported a similar case and expressed the old Hippocratic idea that there might be value in an artificial pneumothorax. Bourru, Librarian of the Faculty of Medicine of Paris, in 1770 discussed the possibilities of collapse therapy.

It remained for James Carson of Liverpool to show, in 1819, through experiments on rabbits, how the lungs' aspiratory force could be measured and perhaps taken into account in the treatment of tuberculosis. Two years later, Carson, in his *Lessons of the Lungs*, a triumph of scientific reasoning, made these classical statements:

"To obviate these dangers [too sudden collapse, with possible suffocation from the passage of pus or blood into the windpipe] the plain and simple means are to reduce the lungs thus situated to a state of collapse by degrees only. This might be accomplished by admitting a small quantity of air into the cavity of the chest at one time, and allow-

¹ Capt. J. H. Nicholson & Capt. Abraham Felt, M.C., A. U.S., in *New England Jl. of Medicine*, Nov. 8th, 1945.

1. A. C. Jacobson, in *Med. Times*, June.

ing an interval to exist between the successive admissions, which may be necessary before the lungs shall be brought to a state of complete collapse.

"..... It has long been my opinion that if ever pulmonary tuberculosis is to be cured, and it is an event of which I am by no means disposed to despair, it must be accomplished by mechanical means, or in other words by a surgical operation."

Promptly following Carson's publication of 1819 came John Davy's animal experiments to determine the behavior of various gases in the pleura (1823).

In America, Strudwick, of Hillsboro, N. C., discussed artificial pneumothorax in 1824. He condemned it. Incidentally, he remarked that Physick, the noted Philadelphia surgeon, had suggested the method about 1812. The first in our country to develop this method of treatment was John B. Murphy, who began this work independently in 1895, the same year in which Forlanini published his first favorable results. Mary Lapham and Joseph Pratt followed in 1909.

It is a matter of interest that two North Carolinians appear in this small group. Dr. Mary Lapham established, and for many years conducted, a sanitarium at Highland, N. C.

At the invitation of the editor of this journal, who was at that time secretary of the Third District Medical Society, Dr. Lapham presented the subject of Collapse Therapy for Pulmonary Tuberculosis before the meeting of that society held at Wilmington in 1915.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

RECENT ADVANCES IN THE CHEMO-THERAPY OF MALARIA

ALL of us need to keep up with improvements in the management of malaria patients. Packer, of Memphis, has put out¹ this information, telling what we may and what we may not expect, now and in the near future.

In any consideration of the treatment of malaria it is necessary to take into account the different stages of the malaria parasite in man. The three stages of the parasite which are believed to exist in man are:

1. The Sporozoites.—This stage of the parasite is injected by the infected mosquito into man. No symptoms are produced by these forms for 10 days or more subsequent to infection. There is only one drug which has given any suggestion of being effective against this stage of the cycle; namely, plasmochin (pamaquin U. S. P.) The administra-

tion of plasmochin for eight days, starting with 80 mgms. daily after the third day, with mosquito inoculation on the second day, would prevent vivax and falciparum infections in 100 per cent of cases.

In our studies, the only complications necessitating withdrawal of the drug in 36 patients were two cases of hemolytic anemia in colored patients and one case of abdominal cramps in a white patient. The anemias responded rapidly to transfusions, and the abdominal cramps disappeared upon withdrawal of the drug. Methemoglobinemia and cyanosis occurred in some degree in all patients, but did not appear to be related to toxicity and produced no discomfort. Granulocytopenia was also observed in a number of cases.

It was our impression that the effect was not upon the sporozoite stage, but upon the subsequent stage of the development of the parasite.

2. The Intermediate Tissue Forms.—These have been demonstrated in bird malaria, and are presumed to exist in man and to be responsible for the relapses which occur in vivax infections. Quinine (two grams daily) and plasmochin (90 mgms. of base daily) given concurrently for 14 days will reduce the relapses of vivax infections. It appears that the action of plasmochin is upon the intermediate tissue forms. The role quinine plays is not clear.

Increase in toxicity result when plasmochin is administered concurrently with atabrine.

3. The Erythrocytic Blood Forms (Schizonts) Responsible for Clinical Manifestations.—Minimum plasma concentrations of quinine to produce a remission of parasites and fever for two weeks was found to be five mgms. per litre, and to be effected by 15 to 20 mgms. of quinine per kilogram of body weight.

Shannon with a daily oral dose of .3 grams of quinine got a plasma level in 30 patients ranging from 2 to 8.9 mgms. per litre, and falciparum strains require for control 10 mgms. per litre. A safer minimum dosage would be two grams daily for vivax and three grams daily for falciparum infections, with checking of plasma concentrations.

In the summer and fall of 1942 atabrine was the only drug available.

As most of the early medication localized in the tissues and produced no effect upon the erythrocytic forms which produce symptoms, large initial doses, two-tenths gram every six hours for five doses were given, followed by one-tenth gram t.i.d. for six days. Extremely high plasma concentrations—maximal in 15 minutes—can be achieved by intramuscular administration of two-tenths gram in each buttock. This is the method of choice in treating comatose cases or those in which there is much vomiting. This method should replace the older procedure of giving quinine intravenously, as

¹ Henry Packer, Memphis, in *Jl. Tenn. State Med. Assn.*, June.

the latter is very risky and possesses no advantages.

For the strain of vivax malaria plasma atabrine concentrations of 30 gammas per litre maintained for not less than four days are required for suppression of the clinical attack. Erythrocyte forms of falciparum malaria require a level of 50 gammas for at least six days. There is a poor correlation between oral dosage and antimalarial effect.

Yellow staining of the skin and gastrointestinal irritation may occur, especially if the drug is given before meals. In certain individuals cerebral irritation may occur which may reach the proportions of a psychosis. These toxic effects indicate that even atabrine has its drawbacks.

In this country the most promising of the newer drugs are the members of the 4-amino-quinoline series. Two of these, 7618 and 8137, were studied in Memphis, and their superiority over atabrine was unquestionable. These drugs are three times as active as atabrine in standardized infections, and are effective in courses as short as one or two days.

Field-Type Suppressions. Atabrine, one-tenth daily, after a two-week "loading" period to saturate the tissues preceded exposure to infection, adequately suppresses. Continuation for three weeks after the last exposure cures suppressed falciparum infections, but not vivax infections, which appear as delayed primary attacks a few weeks or months after treatment is discontinued.

Adequate field-type suppression can be achieved by the administration of one dose of the new 4-aminoquinoline drugs a week, in contrast to the daily administration needed in the case of atabrine. These drugs do not stain the tissues or produce toxic manifestations as does atabrine, although mild toxicity may follow large doses. One of the striking things is to see a patient take a capsule of 0.25 grams of drug once a week and withstand three heavy mosquito inoculations during the first week without showing any parasites or fever as long as the drug is administered once a week. These drugs will obviously replace atabrine in field-type suppression as well as in suppression of the clinical attack.

These newer drugs fail to exert any effect on forms other than the erythrocytic blood forms. Relapses of vivax malaria are therefore not prevented by the administration of these drugs during the primary attack.

The ideal drug for use against all stages of the parasite still remains to be found. In view of the great strides made in the last few years it does not seem unduly optimistic to expect that such a drug will be forthcoming in the near future.

BALDNESS—From P. 212

mit baldness, but is not herself subject to it unless she has

a double dose of it, coming from both her parents. As this is rare, baldness in women is also rare. Baldness in a few cases results from minor insufficiencies of the thyroid and pituitary glands. In these cases, proper treatment almost invariably brings about complete restoration.

PEDIATRICS

E. L. KENDIG, M.D., *Editor*, Richmond, Va.

PREVENTING DEVELOPMENT OF BEHAVIOR PROBLEMS

SOME theologian has proclaimed that the noblest sacrifice a man can make is the sacrifice of his reason to his faith; and, unfortunately, reasoning is more difficult than believing.

Once in a long while we come across an article which shows refusal on the part of the author to subordinate his reasoning powers to pronouncements of self-constituted authorities.

A New York pediatrician has written an article¹ which is thankfully abstracted for the help of all doctors and mothers of infants.

In tracing the origins of emotional disturbances, one encounters again and again stories of friction developing in infancy and early childhood around feeding, weaning, thumb-sucking, toilet training.

With a formula which is a little too large, when the baby, blissfully satisfied, falls asleep, the mother, instead of being pleased, holds the bottle up in alarm to see how much is left. She attempts to awaken him. When he opens his mouth to squawk she reinserts the nipple. If he tries to go to sleep again she stirs the nipple vigorously in his mouth.

The physician must explain that the baby is a better judge than the doctor of the quantity he wants at each feeding. Until the 20th century the young of the entire human race, in common with the rest of the animal kingdom, always determined their own feeding time without disastrous results. The baby may take a five-hour interval at one time of the day and a three-hour one at another time, but the pattern tends to repeat itself day after day, and the baby is on a regular schedule which is not predetermined by the physician and mother. If he wakes half an hour early or an hour early on occasion, and seems really hungry, feed him then.

If he regularly is hungry in three hours, he temporarily needs a three-hour schedule. If he wakes at 2 a. m. or thereabouts, feed him. This does not establish a habit. All babies will give up the 2 a. m. feeding as soon as they are getting enough calories at the other meals to allow them to sleep through the night.

When solid foods are first introduced most babies are doubtful about the first few mouthfuls. The taste, the consistency and the spoon are

1. Benj. Srock, New York, in *Jl. Pediatrics*, Oct., 1945.

strange. After two or three days the majority of babies take cereal; within a week or two they are enthusiastic. But there are other babies who, on the second day, dislike the cereal more than on the first day, and on the third more than the second. If the mother persists in her efforts to force the substance in, the baby's obstinacy increases apace.

To prevent a battle over the first solid food the mother can be advised at the time the solid food is prescribed that it will require several days, perhaps several weeks, for the baby to get familiar with this new food. There's no hurry. The only important thing is to ensure that he will eventually like it. A mere taste a day is plenty until he becomes eager.

Cereal so often causes rebellion that applesauce or mashed banana may well be the first solid food. Fruit is nearly sure-fire. The baby may be puzzled for a day or two, but then almost invariably becomes enthusiastic. After a couple of weeks of the idea of solid food he will take cereal or anything else; whereas if he is started with cereal and has fought it for two weeks, he will in turn fight fruit or any other delicacy on principle.

The 6- or 9-month-old baby is usually so hungry at mealtime that he leans forward for whatever is on the spoon. Many 12- or 15-month-old children lose this avidity, at least in spells.

The foods most commonly refused or taken poorly are vegetables, cereals and milk. The mother dare not let them be slighted. She urges or forces. The baby's obstinacy increases. Each has become disillusioned about the other. The mother should be warned before the change occurs. Don't be surprised if the baby's appetite falls off and he becomes more choosy, otherwise he would become an obese monstrosity. He may turn against half his vegetables. Serve him the others. He may reject all his vegetables. While he is off vegetables, serve him fruit twice a day. His fruit and his cod-liver oil will make up for the vegetables.

He may temporarily cut down his milk intake to a pint a day or even less. A pint is enough anyway. If he goes below for any length of time you can serve it in milk puddings, milk-made cereal and cheese. His milk intake will go up again sooner or later if you don't turn it into an objectionable food by urging it. Instead of cooked cereal you can offer dry cereal, bread, potato, macaroni, tapioca, rice. Even if he wants none of these starches for considerable periods he will not suffer.

If you will let your baby go on thinking of food as something always to be enjoyed, his nutrition will take care of itself, even though his appetite varies considerably in amount and in kind; but if during this period when he becomes more choosy you urge and force and make him feel that half the foods are his enemies, there's a good chance

that you will make him thin and cantankerous.

At the end of each of the child's first illnesses the physician would do well to remind the mother that it often takes several days for the appetite to recover, but that when it does return it will be intense enough to ensure the child's former rate of growth, probably abnormally great to ensure the recovery of the weight lost.

Sprock's advice as to weaning, thumb-sucking and toilet training is equally sensible, because based on the same kind of reasoning, and supported with the same kind of experience.

Write the author for a reprint.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

OBSTETRIC AND PEDIATRIC MEDDLING

MEDDLESOME midwifery is a term hoary with age. It is unlikely that, within a hundred years, a student has gone through medical college without being insistently and persistently counseled against it. Kennedy says¹ meddlesome midwifery — and meddlesome pediatrics—is still being practiced, on a large scale. And he is right.

He goes on to particularize:

The weight of the baby is little influenced by the mother's diet unless she gormandises, or starves to the point of malnutrition. The mother eats her normal diet, provided it is well balanced. No restrictions are placed on her, other than condiments, unless complications occur. Let her lead as near a normal life as possible.

When the baby arrives he is likely to be apneic. Swinging by heels increasing cerebral congestion. Cold water has no place in the delivery room. When resuscitation is necessary, it should be done very gently. Remove mucus from air passages aided by suspending gently by the feet and massaging the trachea. As soon as this is completed, he should be put in an incubator. Any further procedures, such as artificial respiration or aspiration of mucus by catheter, should be carried out in the incubator.

The chief cause as seen today in slowness of breathing is sedation and anaesthesia. The opiates are the chief offenders. Clifford concludes, after a five-year period in which 10,000 mothers received a barbiturate instead of opium, that barbiturates exert no harmful effects on the fetus or the newborn. He does say the baby is sleepy and relaxed and may not cry for five minutes.

We should train our patients not to expect a painless labor. If we delay giving analgesia until dilation of the cervix has well started, then usually one dose will carry the patient through the remaining labor. Uterine contractions strong enough to

¹ Hughes Kennedy, Birmingham, in *Jl. Tenn. State Med. Assn.*, June.

impair the placental circulation to the point of fetal anoxemia may be relieved by analgesia. Fetal oxygenation seems to be satisfactory under ether anesthesia. Many warn against the dangers of the nitrous-oxide-oxygen.

Spinal anesthesia is the general choice and carries the least danger for the baby. However, the surgeon must recognize the danger of a sudden fall in blood pressure which affects the baby as well as the mother.

The obstetrician should not clamp the cord until it ceases pulsating unless some emergency arises. In either case, the blood should be milked out of the cord into the baby.

Just to satisfy the mother, one should not run the risk of injuring the baby. When respirations are fully established, the baby begins his long road to useful citizenship. Will he be aided and abetted in this forward march or will he be hindered by too many rules and regulations? Since human breast milk is entirely different from other forms of milk (each animal has a different milk composition), it is felt that for the human offspring human milk is best.

Since the mother does not produce milk immediately, the baby goes through a period of starvation and dehydration which is beneficial and serves to lessen edema. As the hours pass, the baby begins to get hungry and he is eager to suck, this being the best stimulant to the breast. In 48 hours to 72 hours the mother is usually furnishing sufficient nourishment for the infant and steady progress ensues.

Prelacteal feeding in order to lessen initial weight loss and prevent dehydration most pediatricians have found inadvisable and I have discontinued its use. With prelacteal feeding, these babies are satisfied, do not become hungry and frequently are poor breast nurses. As a result the breasts are not stimulated properly, the mother gets the idea that the bottle is as good as the breast and the baby is soon totally on the bottle. Instead of explaining to the mother that the baby should be hungry at feeding time, and may cry, some physicians too quickly turn to the formula.

It is normal for the breasts to have more milk than the baby can take in the beginning. As the baby fails to empty the breasts, the amount is spontaneously reduced within several days to the amount that the baby does take. During this time the mother is uncomfortable. In an endeavor to relieve this discomfort, frequently, fluids are restricted and tight binders are applied. As a result the milk supply is too much restricted and may never return sufficiently to satisfy the baby. Support for the breasts is in order but no pressure should be applied. Mothers co-operate well if they are told how valuable it will be for the baby.

Hess of Chicago has showed that the mortality rate for bottle-fed babies is seven times that of breast-fed babies. The modern mother is willing to do her part for the safety of her baby. All she needs is proper instruction.

In a certain case the baby was kept in the room with the mother in the hospital, was fed whenever he cried and for as long or short period as he desired. On arrival home, the mother and baby were old friends and there was no psychological disturbance. Maybe we are being too rigid in our standard feeding schedules.

Many babies are weaned because the mother said her milk did not agree; the baby was regurgitating a small amount when belching. Other babies have been weaned because they were vomiting, and by the time the correct diagnosis of pyloric stenosis is made, the mother's milk is entirely gone and the baby is deprived of an important food element during the convalescent period. In other cases, the mother states the baby had a diarrhea and weaning was necessary. If it is realized that many babies normally have six to 10 stools daily while on the breast and that the stools may be green and even contain some mucus, no concern will be experienced. These babies are gaining satisfactorily and are not sick. In a few cases, laxatives given the mother result in loose stools in the baby.

Another reason for nursing the baby is that it obtains certain immune bodies through the breast milk and is therefore more resistant to certain of the child diseases.

In recent years there seems to be a contest between certain physicians to see who can feed their babies the earliest and on the greatest variety. Recently, I saw a baby whose pediatrician had insisted on starting cereal at three weeks of age. For another, at eight weeks, the pediatrician had started cereals, strained vegetables, cottage cheese, yolk of hard boiled egg and grated pineapple. The baby does not need this early feeding and frequently develops a feeding complex if forced. Early feeding gives the mother more work to do and may possibly increase the allergic reactions.

When the baby begins to drool, showing an increase in the salivary flow, nature is suggesting that cereal should be started. If, at the same time, the infant does not seem satisfied on a quart of milk, it is advantageous to start cereal, regardless of the age of the baby.

CAUTION AS TO SURGERY FOR RELIEF OF TRAUMATIC

EPILEPSY

M. A. Falconer, in *Australian & New Zealand Jl. of Surg.*, Oct., 1945

The frequency with which epileptic attacks occur after trephinating skull wounds has been estimated from as low as 0.8% to as high as 45%, but in only a small proportion of cases do epileptic attacks become permanently established. Operative excision of a brain cicatrix should not be contemplated until more than two years have elapsed since

the wound was inflicted, for in many cases the liability to epilepsy is only temporary, and the earlier the attacks appear after the occurrence of the wound, the more likely are they to be of only temporary duration. However, when the onset of attacks is delayed beyond two years, the attacks are usually persistent. The second and even more important rule is that no patient should be submitted to operation unless adequate treatment with phenobarbital or other anticonvulsive drugs has been tried and has failed. In some cases excision of a brain scar had been carried out without due regard for these principles, and attacks continued after operation until proper medical treatment was given for the first time.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

BEST TREATMENT OF GONORRHEA

THE treatment which has been found best is 200,000 units of available penicillin dissolved in 5½ c.c. saline solution, injections of one c.c. of the solution being drawn into the barrel of a syringe with needle attached and administered intramuscularly into the gluteal muscle at 2½-hour intervals.

It was formerly believed that female patients were more difficult to treat for gonorrhea than male. With penicillin therapy, the results are the same in the two sexes. Investigation of cures of gonorrhea treated with penicillin have confirmed a fact previously suspected with other types of treatment—that gonorrhea is more readily cured in the colored patient than in the white.

In gonorrhreal arthritis additional injections of 20,000 units should be given into the infected joint cavity directly, one injection on each of two days. Epididymitis, while rare in gonorrhea under penicillin treatment, should receive the usual care, and its eradication should not be dependent on penicillin therapy alone.

Repetition of the above-outlined course of treatment as soon as a definite diagnosis of recurrence is made, will result in almost 100 per cent final cures. Sulfathiazole given in conjunction with penicillin therapy—an initial dose of two grams, followed by the administration of a one-gram dose, four times a day, after meals and at bedtime—will enhance the percentage of cures in retreated cases.

Some infections have resisted treatment with as high as 500,000 units in one course in divided doses of various strengths and over various intervals.

A plan widely used by the military is to administer 200,000 units of penicillin, 50,000 units every three hours for four doses, thus completing the course in nine hours.

From 25 to 30% of reactivations will occur more than a week after treatment. It is therefore necessary that patients be kept under observation for more than a week following treatment, and that they be warned against the dangers of spread-

¹ G. W. Lee, Richmond, in *Jl. Indiana State Med. Assn.*, June.

ing the infection for at least a month. It is important that checks of cure be made by studying direct smears and by culture both of urethral scrapings and of fluid massaged from the prostate.

Since the gonococcus may be killed by air-drying in 20 minutes utilizing cultures, the ideal method of checking on cures, often will not be resorted to by a great many physicians. Therefore provocation tests must be resorted to, such as massage of the prostate and passage of a 24F sound one week after treatment. A direct smear of the prostatic fluid and urethral scrapings with a platinum loop is made at this time. The patient is instructed to return in three days or sooner if any discharge or gleet is noted. On the three-day check any urethral discharge is smeared on a slide and stained, specimen carefully studied; and if this is negative, the urinary sediment of the first glass is stained and studied. Even on negative findings the patient is warned against possible recurrence and urged to avoid sexual intercourse for at least one month, and to return to the office for a final check-up at the end of the month, or immediately if any suggestive symptoms appear.

Penicillin dispersed in beeswax-peanut oil may be effective in treating gonorrhea, but rate and interval of absorption will be variable, thereby impairing treatment results.

Penicillin in physiological saline solution given by intramuscular injections is the most satisfactory present-day treatment of gonorrhea.

THERAPY OF ECZEMATIZED DERMATOPHYTOSIS (G. M. Lewis & Mary E. Hopper, New York, in *Sou. Med. Jt.*, Mar.)

There is no specific to be looked for. Wet compresses or foot baths, using hypertonic saline or a mixture of boric acid and saline are often well tolerated and soothing. Then borated talc, zinc-starch paste and x-ray therapy may be successively used. In severe cases, bed rest is advisable. Soap is usually interdicted; cleansing should be by sulfonated oil or plain mineral oil. Relief from the intolerable itching may be temporarily obtained by digital pressure. Patients should be warned not to act on advice volunteered by well-meaning friends.

EVALUATION OF MEASURES FOR USE AGAINST COMMON FUNGUS INFECTIONS OF SKIN (M. B. Sulzberger et al., in *U. S. Naval Med. Bul.*, 45:237, 1945)

The subjects were volunteers from the prisoner population at the U. S. Naval Disciplinary Barracks. The study was conducted over a three-month period.

When no prophylactic measures were used on the feet, active fungous infections developed in 8.85 per cent of 260 men; in 1.07 per cent of 281 men using undecylenic acid-undecylenate powder.*

In the treatment of 160 men with active and usually undifferentiated fungous infections of the feet U A-A powder gave the best results.

In the treatment of 72 active fungous infections of the groin U A-U powder (44 cases): 35 cured; 8 improved; 0 worse; 1 unchanged.

Zinc undecylenate	20.0
Talc, U. S. P.	76.0
Undecylenic acid, Grade AA	2.0
Dibenzo thio indigo (red)	2.0

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As is true of most Medical Journals, all costs of cuts, etc., for illustrating an article must be borne by the author.

AGAIN—IS IT POSSIBLE TO GIVE THE FULL MEDICAL COURSE IN A VILLAGE?

FROM the issue of this journal for May, 1944:

I speak truth, not as much as I would, but as much as I dare, and I dare the more as I grow older.—Montaigne (*Essays*).

The best way to come to truth being to examine things as they really are, and not to conclude they are as we fancy of ourselves, or have been taught by others to imagine.—Locke (*Human Understanding*).

THE present occupant of the office of Governor of North Carolina has issued a proclamation as to medical care and education in the State, and mailed an expensively printed copy to each of the State's doctors of medicine. The Governor says his concern is that members of the low-income group shall not lack for health care.

The Governor's idea of means of meeting the situation, which he mistakenly assumes to exist, is based on another mistaken assumption—that the place for a sick person is in a hospital.

Hospitals are essentials for certain forms of health care. For the vast majority of illnesses they are expensive luxuries, far beyond the means of ninety per cent of us, even in these affluent times; and beyond possibility of our purchase through taxation, for, be it remembered, payment by taxation is payment by ourselves.

The plan proposes the erection of a hospital at Chapel Hill of 600 to 1,000 capacity, and other hospitals in various places over the state. Who does not remember the time, since World War I, when hospitals then being operated were no more than half-filled, and all running at a great pecuniary sacrifice?

Those who have provided private hospitals to meet a great health need deserve consideration. Their investments should not be confiscated. It would be far more practicable, more life-saving, and cheaper, for towns or counties having no hospitals of their own to pay operators of near-by hospitals to care for those of their citizens needing hospital care who cannot pay the bills themselves.

There's a great pothole about the lack of doctors in rural sections. The lack is nothing like so great as is represented. One doctor can well see after the health needs of at least four times as many persons now as he could 50 years ago.

Supplement from our issue for May, 1946:

Analysis of the latest report of the North Carolina State Board of Health covering a whole year shows a *death rate of 7.5 per 1,000 for the whole State, while the rate for those counties having no hospital was 7.12 per thousand.*

Be it noted that in compiling these figures a death is listed according to county of usual residence, not according to county in which death occurred.

This does not mean that the people in those counties not having hospitals did not have hospital care. It means that they had hospital care when they needed it. It is to be borne in mind that, all other things being equal, the death rate should be higher in these rural counties, for the tendency is for the young folks to go to the cities; and a good many return to the rural sections to spend their last days; and so the average age of those living in the rural counties is higher than for the urban, so death rate should be higher!

From our issue for January, 1945:

THE first two years of medicine are taught in lecture halls and laboratories, the last two in hospitals and laboratories. More of the time spent in hospitals is taken up with out-patients than in-patients. A lot more persons seek doctors' services while they are up-and-about, than go to bed sick at home or hospital. Go into any doctor's office and see that these makes up the great bulk of the practice of medicine.

A medical school should prepare its students for work such as they will have to do throughout their professional lives.

The Council on Medical Education of the American Medical Association lists as one of the requirements for qualifying as an acceptable medical school, an out-patient department with an attendance averaging at least 100 per day.

To the Out-Patient Department come persons with the same kinds of acute medical and surgical conditions that bring patients to doctors' offices. The great majority require no more. A considerable number, e.g., persons with heart disease, chronic nephritis, or diabetes, are treated as outpatients most of the time, but once in a while need to be in-patients for a while. When they go in their charts go with them. When they recuperate they are referred back to the Out-Patient Department, and so a continuous management is taught so as to qualify a student for the kind of practice he will do as a doctor. The same is true of pregnant woman.

Can this be done in a village of 4,000? Richmond, with a population of nearly 200,000 and an Out-Patient Department developed over a hundred years, has an average attendance of about 250!

A great deal has been said about how the Medical School of the University of Iowa makes out in a village. First, Iowa City has (according to Dr. W. J. Bierring of Des Moines, a former president of the A. M. A.) a population of 25,000. Second, only 25 miles away is Cedar Rapids, a city of 65,000; and only 50 miles away Davenport with nearly 100,000. Third, there are many evidences that even with free bus and ambulance service, the Out-Patient instruction—the kind that qualifies for at least 75 per cent of future practice—given at

Iowa City leaves much to be desired, and is given at a tremendous cost.

Governor Broughton has said over and over that two-year medical schools are doomed, that they must expand to four-year schools or close up. Not a single dean of a two-year medical school—and I wrote them all—has shown any such concern in this matter as has Governor Broughton. One of them, that of the University of Alabama, is on the point of expanding its medical course to four years; but the expanded course will not be undertaken at Tuscaloosa even though it have 27,000 souls, but at Birmingham, a city of 270,000!

Since the foregoing paragraphs were in type a letter has come from Dr. Victor Johnson, Chicago, Secretary of the Council on Medical Education and Hospitals of the American Medical Association, from which I quote:

"I have very little to add to what he [Dr. Ray Lyman Wilbur, Chairman of the Council] said in his reply except to state even more emphatically that it would be virtually impossible to carry out satisfactorily a four-year medical school program in a village of 5,000. This would be exceedingly difficult in a city of 30,000 or less unless an elaborate system of transportation of patients was developed. In any case the out-patient material would probably be inadequate."

From a letter from the Dean of the (2-year) School of Medicine of the University of North Dakota:

"It seems to me that as some of the two-year schools get out of the field, there should be all the more opportunity for the few that are left and I have been encouraged in this thought by the deans of several of the larger complete schools." "In connection with this school there is considerable talk of expansion. Taking into consideration our small population, our long distances, our absence of cities of any considerable size, . . . I have never been inclined to think that a four-year school would be possible in North Dakota."

From the Dean of the School of Medicine of the University of Utah:

"In the case of our school of basic medical sciences we have, as you know, recently expanded to include the four-year curriculum. The reason for our expansion was not that we felt that the days of the two-year schools were definitely limited or that such schools had outlived their usefulness; our primary reason for expansion was that we are in the center of the largest geographical area in the United States which does not have a four-year school and there was a critical need for such a school to serve the Great Basin Area."

In recent months a number of two-year schools have initiated plans for expanding to a four-year basis. Under some circumstances this may be de-

WHAT TO CARRY IN YOUR BAG

THE INITIAL article in Volume I of Cornell Conferences on Therapy deals with the contents of the doctor's bag.

All doctors should carry with them everywhere they go—to the theatre, to church, to social parties, to picnics, to family reunions, and on their vacations—a bag containing remedies to be applied promptly to meet all common emergencies. Most of us can recall the sense of helplessness and even of embarrassment which we have felt because of not having some means of dealing with a medical emergency. It is entirely possible that we have lost some prestige in this way.

Carrying drugs to meet ordinary conditions other than accidents encountered in night practice is also worthy of consideration. And the doctor who takes along remedies for ordinary acute conditions so that treatment may be started at once, and without waiting until father can come from the field and drive to the drug store and back is appreciated.

The list of drugs carried by these New York doctors may well serve as a basis for decision on this point by the younger, and even the older, members of the profession. Most of us would add certain things and subtract others.

An examination of the bags of seven doctors, most of whom practice in the center of New York, show that they contained in the way of medicines:

Morphine sulfate, codeine sulfate, seconal, epinephrine, mercupurin, pituitrin, pitressin, amyl nitrite, ergone, coramine, camphor in oil, calglucon, trasentine, morphine and atropine, pantopon, hyoscine hydrobromide, nembutal, adrenalin in oil, digifoline, esidrone, nitroglycerine, prostigmine, gynergen, amytal, digifortis, adrenalin, salyrgan-theophylline, dilaudid, sodium amytal, atropine sulfate, ephedrine and amytal, caffeine-sodium benzoate, betaxin, thiamine and amytal, allonal, phenobarbital, digitaline natielle, alcohol, tincture merthiolate, K-Y jelly, metaphen.

One doctor had only four items and another as many as 21.

THE DIAGNOSIS OF MINIMAL PULMONARY TUBERCULOSIS

WE need often to be reminded of the need for, and the means of, making a diagnosis of tuberculosis while it is minimal. An article¹ is reviewed which contains this valuable information.

To determine the factors that could aid toward an early diagnosis, 200 cases with minimal lesions were studied. These were consecutive admissions to the Otisville Sanatorium, all minimal on admission. Of the series, 155 patients were 15 to 35, 45 over 35 years old, 20 older than 40. There

has not been enough emphasis on the fact that tuberculosis often occurs in the elderly. Far too frequently the symptoms of older people are explained on the basis of chronic bronchitis, asthma or winter or cigarette cough. Every person who has had contact with tuberculosis patients should have a complete examination, including X-ray at once. This should be repeated every year, preferably every six months.

Only 37 (19 per cent) were without symptoms. One hundred and fifty-five patients had specific complaints, and eight gave a history of pleurisy. The statement has often been made that minimal tuberculosis is asymptomatic. This study shows that the great majority have symptoms. Symptoms frequent in minimal tuberculosis.

Besides contact and routine examinations, the only factor that aided early diagnosis in this series was an acute onset or hemoptysis that prompted an immediate investigation. In 21 patients a diagnosis of tuberculosis was not suspected or made at the first medical consultation.

It should be a routine practice not to make a diagnosis of pneumonia, bronchitis, asthma, pleurisy, chest cold, catarrhal fever or gripe without first considering tuberculosis. To determine definitely the presence of tuberculosis an X-ray and sputum examination and occasionally a tuberculin test is requisite for all these patients. This would not be an impracticable or uneconomical procedure, for the yield of active cases of tuberculosis would be considerable.

The most valuable diagnosis physical finding in tuberculosis is the presence of rales, but only 29 per cent of these 200 minimal cases had rales. In minimal tuberculosis a normal physical examination is usual.

The demonstration of tubercle bacilli is, of course, absolute proof of tuberculosis, but the presence of a negative sputum does not mean no tuberculosis. In this series, 78 per cent were without positive sputum.

An early X-ray examination, properly followed up, will indicate the disease. In a case with a purulent sputum, persistently negative for tubercle bacilli, tuberculosis is undoubtedly not present. Other laboratory findings were of little help in diagnosis.

The patients that come to physicians' offices are a fertile field for mass surveys. Fluoroscopy is of more value than a physical examination for the discovery of minimal cases, but it cannot be relied on solely for diagnosis. To be certain of the presence or absence of tuberculosis, it would be necessary to X-ray patients considered negative on fluoroscopy.

Treatment should be provided without delay. It is the duty of the physician to instruct the patient and his family in the infectiousness of the

I. D. Bobrowitz, M. D., and Ralph E. Dwork, M. D. *New England Journal of Med.* January 3.

disease and of the value and necessity of immediate care. A patient may delay proper attention at home, postpone seeking admission to the sanatorium or continue to work after the diagnosis because necessary home adjustments have not been made. To meet these situations requires the cooperation of public or voluntary social service and welfare associations and of public health nursing and medical groups. If such problems are taken care of, patients will be prompted to accept medical treatment as soon as the diagnosis has been made. The possibility of progression of the disease can then be diminished and the morbidity and mortality of advanced tuberculosis thereby avoided.

DEFLATING SCHWELLENBACH—PUNCTURING A WIND-BAG

NEWSWEEK's Washington reporter offers the following information about the bureaucrats' lobby:

"Sen. Forrest C. Donnell last week revealed himself as an exorciser of ghost-writers and Washington trembled at the threat to a comfortable tradition.

"The Missourian opened his unorthodox attack as Secretary of Labor Lewis B. Schwellenbach concluded a 12-page speech before the Senate Education and Labor Committee advocating passage of the Wagner-Murray-Dingell bill. 'Who wrote that speech?' Donnell asked. When the Secretary hedged, Donnell charged that Schwellenbach, relying solely on his 'prestige as a member of the Cabinet,' had made a speech on a subject 'he knows nothing about.' Despite Sen. Claude Pepper's protest that the Secretary was being questioned 'like a criminal' the attack continued.

"Donnell: 'Has the Secretary read the testimony submitted by the Public Health Service to this committee?'

"Schwellenbach: 'No.'

"Donnell (reading from Schwellenbach's speech): 'I am sure you all must have been impressed, as I have been, with the testimony submitted by the Public Health Service to your committee.'

"Schwellenbach (weakly): 'Your criticism is absolutely right.'"

A deliberate falsehood, on an important subject by a high official—rather a low person occupying a high office—and no notice taken of it by anybody but a reporter!

An old tale about a happening at a dinner given many years ago by the prime minister of one of the Balkan countries comes to mind. The British minister complained to the host that a certain other guest had stolen his watch. A look of annoyance came over the face of the host, who said "sh, sh." After a few minutes the host slipped the watch

into the hand of its owner, who, delighted, asked, "How did you get it back?", whereupon, with several more "sh's," the prime minister replied, "He doesn't know yet that I've got it back."

MISSOURI DID IT; WHY NOT NORTH CAROLINA AND HER NEAR NEIGHBORS?

FROM the *Weekly Bulletin* of the St. Louis Med. Soc., June 21st:

House Bill No. 206, known as the Doctors' Prefix Bill, becomes law on July 1st, 1946. Members are urged to make appropriate changes immediately in their office name plates, stationery, cards, prescription blanks and such. The law provides that any one using the word "Doctor" or "Dr." before his name must affix words or letters after his name designating the degree held or the type of practice in which the individual is engaged, e. g.—

Dr. John Smith, M.D., or John Smith, M.D., Physician and Surgeon; not Dr. John Smith, Physician and Surgeon.

The law applies as well to the dentist, the osteopath, the chiropractor, the optometrist — to any person practicing or professing to practice a healing art and using the word "Doctor" or abbreviation "Dr." before his name.

A North Carolina doctor of medicine resigned some years ago from a club of which he was a charter member. On being asked why he did this, he said he was tired of hearing every kind of person called "doctor."

The editor of this journal has several times proposed that doctors of medicine abandon the title to the miscellany of claimants; and designate themselves, "physician and surgeon," "physician," or "surgeon," as the case might be.

The Missouri law does not restrict the title as it should be restricted; but it is a long step forward, and it will, if properly enforced, prevent a lot of imposition on that large fraction of the population seriously lacking in powers of discrimination.

SOMETHING IN A NAME (N. Y. Physician)

A physician came to my office with a request that I do an A. Z. test. "The patient is a single girl, 17, from one of the best families in the city."

The A. Z. was positive.

Sometime later, when I was looking for a nice glass bottle I remembered the crystal bottle that the urine specimen in the above case was brought in. Only then did I read the label, "Vierge Folle" (foolish virgin). "Gabilla, Paris."

NEWS

GRANTS FOR CANCER RESEARCH

The National Advisory Cancer Council has considered favorably the application of the University of Virginia, for a grant of \$15,000 to conduct a study of the fractionation of proteins of normal and cancerous tissues and of reactions to chemotherapeutic agents, under the direction of Dr. Alfred Chanutin. A second grant of \$3,550 to the same institution was recommended for work to be directed by Dr. Robert E. Lutz, on the synthesis of compounds causing cancer cell damage.

Two separate grants will be made to George Washington University, Washington. One provides \$2,100 for a study of the effect of Vitamin E on the growth and incidence of spontaneous and induced tumors in mice, under the direction of Dr. Ira R. Telford. The other provides \$2500 for a program of study, under Dr. Chester E. Leesee, of the toxicity, metabolism, physiological and pharmacological actions of substances that may be useful in destroying cancerous tissue or in halting its growth.

The Council recommended also a grant of \$10,000 to the University of Rochester, Rochester, New York, for studies of gastric secretions in patients with cancer of the stomach.

Other grants are:

\$7,700 to John Hopkins University, Baltimore, for the study of the control of enzymatic activity in relation to agents that interfere with the metabolism of normal and cancerous cells, under the direction of Dr. Leslie Helleman.

\$2,847 to Loyola University, Chicago, to support a study of the pathogenesis of experimental brain tumors, under the direction of Dr. Harold C. Voris.

\$2,500 to Northwestern University, Evanston, Illinois, for the study of synthesis of hydrocarbons structurally related to the steroids, under the direction of Dr. Byron Riegel.

\$2,100 to the University of Minnesota, Minneapolis, to support a study of gastritis in relation to carcinoma of the stomach, under the direction of Dr. Robert Hibbel.

\$700 to Carson-Newman College, Jefferson City, Tennessee, to support work on the preparation of compounds for testing in the chemotherapy program on cancer, under the direction of Dr. Carl T. Bahner.

THE NATIONAL SOCIETY FOR MEDICAL RESEARCH

A society by this name, to act as a clearing house for information on medical studies and discoveries, has been organized under the sponsorship of the Association of American Medical Colleges with the cooperation of 100 national scientific organizations.

Dr. Anton J. Carlson, President of the National Society for Medical Research and Professor Emeritus of Physiology at the University of Chicago, emphasized that an important function of the Society is to analyze and expose the propaganda of small but noisy groups which object to the use of animals in the experiments without which medical science would still be in its infancy.

The Society has as its purpose the advancement of research in medicine, biology, pharmacy, dentistry and veterinary medicine.

Secretary-Treasurer of the Society is Dr. A. C. Ivy, Head of the Department of Physiology at Northwestern University. On the Board of Directors are Dr. R. B. Allen, University of Illinois; Dr. Alfred Blalock, Johns Hopkins University; Dr. C. S. Burwell, Harvard University; Dr. E. J. Carey, Marquette University; Dr. L. R. Chandler, Stanford University; Dr. W. C. Davison, Duke University; Dr. R. E. Dyer, National Institute of Health; Dr. H. S.

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National offices of the Society are at 25 East Washington Street, Chicago.

DR. PLECKER RESIGNS STATE POST AT 85

The director of the State Bureau of Vital Statistics, a man with the name of every Virginian under the age of 34 in his files, has retired from active work to devote more of his time to the racial study of Indians and Negroes.

Eighty-five-year-old Dr. Walter A. Plecker's fellow workers gathered around to wish him well. An appropriate gift was given to the man who has been with the bureau since its establishment in 1912.

"The most comfortable chair we could find."

Dr. Plecker had been contemplating retirement for the past two years, but only recently got around to it. He turned in his resignation to become effective with the end of the fiscal year.

A native of Augusta County, he was graduated from Hoover Military Academy and the University of Virginia. After years in private medical practice in Hampton, he joined the health department of Elizabeth City County, and there established a systematic way of recording births and keeping other vital statistics.

In 1910 to 1912, he was engaged with the Rockefeller Foundation in a state-wide survey of hookworm conditions. He came to the State Bureau when it was re-established in March, 1912, after a lapse of some time.

Dr. Plecker has become widely known as an authority on racial integrity and the effect of amalgamation and cross-breeding among the races.

DR. ROSHIER MILLER TO RETIRE

Dr. Roshier W. Miller, who attended his last meeting of the Richmond School Board, June 28th, as board chairman after 18 years' service in that capacity, will retire at the end of the year from the faculty of the Medical College of Virginia.

Dr. Miller has been on the Faculty of the Medical College for 51 years, at present is serving as student health physician and teaches *materia medica* in the School of Pharmacy and applied therapy in the Medical School.

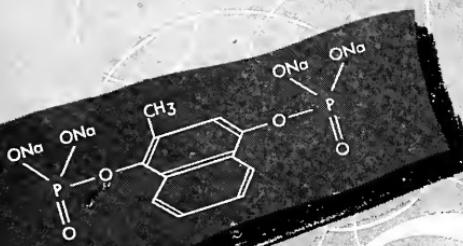
Dr. Miller's double retirement will not interfere with his private practice of medicine, which he will continue. He plans also some extracurricular activities. What those activities will be is "a question for the future. I can't be idle," he said.

Dr. Miller has served on the School Board for 26 years and estimates that he has attended more than a thousand board and committee meetings.

COLORED DOCTOR TO OPEN CLINIC

Dr. F. C. Carden, colored physician of Statesville, N.C., has purchased the entire estate of the late Maggie Gaither, corner of Elm and Chambers streets. He is remodeling the house into a modernly equipped clinic.

Dr. Carden spent four years and one month in Government Service, returning to resume his practice in February of this year.



WHEN VITAMIN K IS NEEDED...

Synkavite* 'Roche' is the choice of many physicians because of its distinctive clinical advantages. Synkavite is water-soluble, stable and—molecule for molecule—has "an antihemorrhagic activity even greater than that of fat soluble menadione" (J. G. Allen, Am. J. M. Sc., 205:97, 1943). It may be taken orally without the use of nauseous bile salts or administered parenterally. Synkavite is available in oral tablets, 5 mg each, and 1-cc ampuls, 5 mg and 10 mg each.

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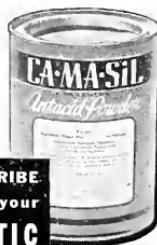
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THE SOUTHERN PSYCHIATRIC ASSOCIATION will hold its annual session at the Jefferson Hotel in Richmond on October 7th and 8th. The last meeting of the Association was held in Nashville in 1941, under the presidency of Dr. Arthur J. Schwenkenberg, of Dallas. The present officers of the Association are: Whitman C. McConnell, M.D., St. Petersburg, Florida, President; James K. Hall, M.D., Richmond, President-Elect; Edmund McC. Connally, M.D., New Orleans, Vice-President; Arthur J. Schwenkenberg, M.D., Dallas, Councillor; John S. Hickman, M.D., Meridian, Mississippi, Councillor; Newdigate M. Owensby, Atlanta, Secretary-Treasurer.

DR. ROY B. MCKNIGHT, of Charlotte, announces the association of DR. GLENN G. HENDRICKSON in the practice of surgery.



Dr. Hendrickson is a graduate (A.B.) from Centre College, Danville, Kentucky; received his M.D. from Vanderbilt University in 1940; served his internship in the Good Samaritan Hospital, Cincinnati, Ohio. For the past five years he has been a surgical resident at the University of Virginia Hospital, Charlottesville, for the last year of which he was Instructor in Surgery in the Medical School of the University of Virginia.

MARRIED

Miss Helen Cordier, daughter of Mrs. Helen Wood Cordier of Easthampton, Long Island, and Auguste Julien Cordier, of New York, and Dr. Thomas Nelson Page Johns, son of Dr. and Mrs. Frank Stottet Johns, of Richmond, were married on June 29th. The ceremony was performed by the Rev. Joseph Twichell, great-uncle of the bride, assisted by the Rev. Samuel Davis, rector of St. Luke's Church, Easthampton. Dr. Frank S. Johns was his son's best man. Dr. and Mrs. Johns will make their home in Baltimore.

Dr. Richard Bridgforth Hutcheson, of Chase City, Virginia, and Miss Elizabeth Goodwyn Hardy, of Kenbridge, Virginia, were married on June 30th.

Dr. Jonathan Turner Carriel, Wilmington, Delaware, and Miss Margaret Rives Kearfoot, of Martinsville, Virginia, were married on June 22nd.



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DIED

Dr. Earle B. Craven, 40, died suddenly at his home at Lexington, N. C., June 20th. He had been a Lexington physician since 1934 and for a number of years he was a member of Duke University Hospital Medical staff. He had been in poor health for the past two years, and had undergone extended hospital treatment several times.

He is survived by his wife, Dr. Jean D. Craven, and two sons.

He was a fellow of the American College of Physicians and licentiate of the American Board of Internal Medicine.

Dr. Charles F. Gold, 61, died at Rutherford Hospital June 30th. Dr. Gold had practiced medicine at Rutherfordton the past 21 years. He was county physician for some time and was active in civic, political and religious circles. He was a native of Cleveland County and practiced at Ellenboro 14 years.

Dr. Raymond Thornhill, 31, of Duke Hospital, Durham, was killed in the afternoon of June 22nd when the car he was driving crashed into an abutment of a bridge 15 miles south of Smithfield. Dr. Thornhill was a resident physician on the staff of Duke Hospital. He was a native of Spokane, Wash. He had left Durham bound for a weekend at Wrightsville Beach. When he came to Duke he was placed on a resident's status due to his experience in the Army.

Dr. Thornhill was graduated from Duke University in 1941 and interned at Wilmington, Del., and Seattle, Wash. He entered service on October 17th, 1942. He was awarded five bronze battle stars and one invasion arrowhead and left service with the rank of captain.

Dr. William Simpson Zimmerman, 62-year-old Spartanburg, S. C., surgeon, died July 18th at his country home near Spartanburg. Dr. Zimmerman was a graduate of the Medical College of the State of South Carolina in 1909. He was an Honorary Fellow of the Tri-State Medical Association, by reason of having been a Fellow for more than twenty-five years.

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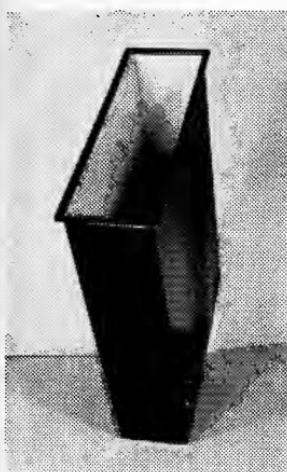
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BOOKS

PERIPHERAL VASCULAR DISEASES, by EDGAR V. ALLEN, B.S., M.A., M.D., M.S., in Medicine, F.A.C.P., Division of Medicine, Mayo Clinic, Assoc. Prof. Medicine, Mayo Foundation, Graduate School, Univ. Minnesota; Diplomate of the American Board of Internal Medicine; and NELSON W. BARKER, B.A., M.D., M.S. in Medicine, F.A.C.P., Division of Medicine, Mayo Clinic, Assoc. Prof. Medicine, Mayo Foundation, Graduate School, Univ. Minnesota; Diplomate of the American Board of Internal Medicine; and EDGAR A. HINES, JR., M.D., B.S., M.A., M.S. in Medicine, F.A.C.P., Division Medicine, Mayo Clinic, Assoc. Prof. Medicine, Mayo Foundation, Graduate School, Univ. Minnesota; with Associates in the Mayo Clinic and Mayo Foundation. 871 pages, with 386 illustrations, 7 in color. *W. B. Saunders Company*, Philadelphia and London, 1946. \$10.

Peripheral vascular diseases appear to be greatly on the increase. Certainly they are attracting more and more attention. The authors realize that the term has led to much confusion. Yet they say that these diseases constitute a clearly delineated group of distinct disease conditions.

Special methods of investigation are elaborately discussed. A chapter is devoted to each of these conditions: Raynaud's disease, scleroderma, erythromelalgia, scalenus anticus syndrome, sudden occlusion of the arteries, arteriosclerosis, thromboangiitis obliterans, aneurisms, tumors of blood and

lymph vessels, phlebitis, varicose veins, and several others.

There is a chapter on surgical treatment for certain conditions, and another on the medico-legal aspect of peripheral vascular diseases.

This is an excellent coverage of a great number of disease conditions commonly encountered and in which the difference between proper and improper management is of very great importance to the patient.

HUMAN EMBRYOLOGY, by BRADLEY M. PATTEN, Professor of Anatomy in the University of Michigan Medical School. With 1366 drawings and Photographs grouped as 446 illustrations, 53 in color. *The Blakiston Company*, 1012 Walnut Street, Philadelphia 5. 1946. \$7.00.

The author has been actuated by the purpose of setting forth in an attractive form the subject of human embryology in its aspects of especial concern to medical men. Much of the not so consequential detail which we are accustomed to see in textbooks on this subject has been omitted. Special attention has been devoted to those aspects of embryology important as forming a background for clinical medicine. An adequate bibliography with an abundance of references to exhaustive discussions of various divisions of the subject is included.

—

DISEASES OF THE SKIN—For Practitioners and Students, by GEEORGE CLINTON ANDREWS, A.B., M.D., Associate Clinical Professor of Dermatology, College of P. and S., Columbia U.; Chief of Clinic, Dept. Dermatology, Vanderbilt Clinic and Roosevelt Hospital; Attending Dermatologist to Presbyterian Hospital and Roosevelt Hospital. Third edition. 937 pages with 971 illustrations. *W. B. Saunders Company*, 1946. \$10.00.

The author tells us that letters from many members of the Armed Forces saying that they had found the second edition helpful placed an obligation on him to bring the book up-to-date and make every possible improvement. More than 60 new skin diseases are described. The book has been entirely rewritten and revised with the end in view of presenting nothing that is useless and everything that is useful in the most practical way. New chapters have been added with the idea of aiding those who contemplate taking the examinations of the American Board of Dermatology and Syphilology.

Important editions have been made to the text throughout, especially in pathology, diagnosis, allergy, sensitization tests and treatment. All prescriptions have been rewritten in the metric system and in Latin as far as is practicable. Many new illustrations have been added.

Certainly this is one of the most useful books on Diseases of the Skin to be offered in recent years.

DISEASES OF THE RETINA, by HERMAN ELWYN, M.D., Senior Assistant Surgeon, New York Eye and Ear Infirmary. With 170 illustrations, 19 in color. *The Blakiston Company*, 1012 Walnut St., Philadelphia 5. Toronto, 1946. \$10.

In addition to a consideration of local disease processes, the retina's participation in systemic disorders, particularly those affecting primarily the vascular system, is gone into very thoroughly. The needs of the ophthalmologist, the neurologist, the internist and the general practitioner are taken into account.

Part I is devoted to diseases of the retina resulting from circulatory disturbances; Part II to those resulting from vascular malformation; Part III to degenerative diseases of the retina having a hereditary basis; Part IV to inflammatory diseases; Part V to tumors; Part VI to detachment; Part VII to anomalies; Part VIII to radiation injuries of the retina.

—

WOMEN IN INDUSTRY—Their Health and Efficiency: Issued under the auspices of the Division of Medical Sciences and the Division of Engineering and Industrial Research of the National Research Council. Prepared in the Army Industrial Hygiene Laboratory by ANNA M. BAETTER, Sc.D., Assistant Professor of Physiological Hygiene, School of Hygiene and Public Health, The Johns Hopkins Hospital. *W. B. Saunders Company*, Philadelphia and London. 1946. \$4.00.

In this volume one may find the author's conclusions as to the ability of women to do certain kinds of work which are commonly regarded as suitable for men only. It is said for it that its chief claim for merit lies in its containing information on which women may be advantageously assigned for service as required. It is admitted that the investigation on which this book is based has left many important questions unanswered. It is anticipated that study of the data compiled in the various war industries employing women will substantially answer a great many of these questions.

—

RESEARCH AND REGIONAL WELFARE, edited by ROBERT E. COKER, Kenan Professor of Zoology; with a foreword by LOUIS R. WILSON, Director of the Sesquicentennial. *The University of North Carolina Press*, Chapel Hill. 1946. \$3.00.

The papers reproduced in this volume were presented in a series of meetings at Chapel Hill May 9th-11th, 1945, during a Conference on Research and Regional Welfare arranged as part of the Sesquicentennial Celebration of the University of North Carolina. They covers a wide range—the humanities and social sciences, nutrition and public health, industry, agriculture, and fisheries—and emphasize the need for research in all phases of Southern life.

THE MODERN ATTACK ON TUBERCULOSIS, by HENRY D. CHADWICK, M.D., Medical Director of Middlesex Tuberculosis Sanatorium, 1938-41, and ALTON S. POPE, M.D., Deputy Commissioner of Public Health and Director of the Division of Tuberculosis, Commonwealth of Massachusetts. Revised edition. *The Commonwealth Fund*, 41 East 57th Street, New York 22. 1946. \$1.00.

There is some new material and condensation of the recognized essentials for early discovery and management.

DISEASES OF THE SKIN—For Practitioners and Students, by GEORGE CLINTON ANDREWS, A.B., M.D., Associate Clinical Professor of Dermatology, the College of Physicians and Surgeons, Columbia University. Third edition 971 illustrations. *W. B. Saunders Company*, W. Washington Square, Philadelphia. London. 1946. \$10.00.

Andrews' book has enjoyed great and deserved popularity with students and practitioners for 15 years. The present edition represents the same kind of intelligent effort to set forth all of the essentials of dermatology, including the remarkable advances since 1938. Many new and useful illustrations have been added. Special attention is given to commonly encountered conditions.

MEDICAL SCHOOL, FROM PAGE 227

sirable, particularly if adequate clinical material exists in the region and if there is real need for such a step. I am not in favor, however, of the mere expansion of a school of basic science simply because of a fear that the school might otherwise be forced to close. In my opinion there is and always will be a place for several really high class schools of basic medical sciences."

The Dean of the Dartmouth Medical School, a two-year institution, scoffs at the idea that such schools are doomed.

I have much confidence in the judgment of those who conduct the affairs of the Medical School of the University of North Carolina. But, for the reasons outlined, I am constrained to believe that in this instance they do err.

I do not believe that the Medical School of the University of North Carolina should add the third and fourth years.

If these years are to be added, I know that instruction can be given far more cheaply and much better doctors be made at Asheville or Charlotte than at Chapel Hill.

Some 30 years ago, a thriving medical school in North Carolina had to close its doors because it fell short of certain requirements made by national bodies of medical educators. Nobody wants this to happen again.

In spite of all this a Committee appointed by another Governor has brought in a recommendation that a school giving all four years of the medical course be established at Chapel Hill. It is

significant that Dr. Victor Johnson, Secretary of the Council on Medical Education of American Medical Association, as a member of this Committee brought in a minority report, in which, along with one other member, he expressed the same opinions as in a letter to me 18 months ago.

This journal still believes that North Carolina has plenty of medical schools; and that to undertake to give four years of medical instruction at Chapel Hill would be a calamity, educationally and financially.

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Many tests have been applied to those suspected of being under the influence of strong drink, or as the Scots say, having "meddled wi' liquor."

According to some of his students, Mordecai, who was the whole Law Faculty at Trinity for a long time, as a means of inculcating a proper definition, taught them this verse:

Not drunk is he who, from the floor,
Can rise again or drink once more;
But drunk is he who prostrate lies,
And can not either drink or rise.

Here are the Bishop's tests:

Sitting one hour or longer in the company when they are drinking strong drink, and in the meantime drinking of healths, or otherwise taking the cups as they come round, like the rest of the company; striking or challenging, or threatening to fight, or laying aside any of his garments for that purpose; staggering, reclining; incoherent, impudent, obscene, or rude talking.

TOXIC MANIFESTATIONS OF LARGE DOSES OF VITAMIN D AS USED IN THE TREATMENT OF ARTHRITIS

(W. D. Paul, Iowa City, in *Jl. Iowa State Med. Assn.*, April

Large doses of vitamin D may cause severe hypervitaminosis D; this occurs more readily with a high calcium intake, especially milk.

The total dose of vitamin D which may cause toxicity varies greatly. The dose should be based on body weight, rather than age, and whether or not it is given in milk.

The usual toxic symptoms of vitamin D administration are headache, nausea, vomiting, diarrhea, epigastric fullness, polydipsia and polyuria. The signs of toxicity are low specific gravity of the urine, traces of albumin in the urine, inability to concentrate urine, increased serum calcium, renal failure, retention of nonprotein nitrogen; deposition of calcium in soft tissues, in arteries and arterioles, and, eventually, death.

Massive doses of vitamin D do not alter the ultimate course of arthritis, and the value of this drug in this disease is questioned.

Whenever massive doses of vitamin D are prescribed, the urine should be examined frequently and serum calcium levels should be obtained.

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JAMES M. NORTHINGTON, M.D., Editor

VOL. CVIII

AUGUST, 1946

No. 8

Prefrontal Lobotomy—Factors Influencing Prognosis*

JAMES W. WATTS, M.D., F.A.C.S.

and

WALTER FREEMAN, M.D., Ph.D., F.A.C.P.

Washington

From the Department of Neurology of George Washington University

PROGNOSIS is a term used in modern medicine, as it was in Greek, for an opinion or forecast as to the probable course of a disease. In any elective surgical operation a knowledge of the prognosis is important, and in psychosurgery it is of paramount importance because the result is actually influenced by the accuracy of the forecast. If the result fall far short of the forecast, the relatives lose interest and lose faith in the physicians. Having looked upon lobotomy as the last resort, they feel they have fulfilled their obligations and are then content to leave the patient in a mental hospital. If they are forewarned that the convalescence is often a very trying one for the relatives, that in spite of the patient's feeling of wellbeing, he is still a sick person, they are liable to be more tolerant of his shortcomings.

Several years ago, we operated upon a veterinarian who had been unable to work for the preceding two years because of a tension state. He sat around home and worried about not having a job. Six weeks after lobotomy, when his wife brought him to the office, she was very much upset. "I'm going to leave my husband, I can't stand it any longer." When asked why, she said, "Every morning when he gets up he starts whistling, whistles

while he shaves and he does not even worry about not having a job. We have only \$84 left and he won't look for a job." When the veterinarian was asked how things were going, he replied "Fine." Asked if he had money to tide him over until he returned to work, he replied, "Sure, plenty."

Q. How much? A. \$84. It was then explained to the wife that he was just as sick six weeks after operation as he had been before operation, but the manifestations were different; that if she could tolerate his deficiencies a few months longer and guide him during his convalescence, he would probably find a job; and he did.

When prefrontal lobotomy is recommended, the relatives want to know what they may expect. Some are satisfied if told that the results are satisfactory in three out of four involutional depressions, or that in dementia praecox there is a fifty-fifty chance of improvement. Others ask more specific questions which are often difficult to answer. Will the operation relieve my wife's symptoms and make her happy again? What are the risks of prefrontal lobotomy? Is she too old to be operated on? Is it liable to make her worse? If it changes her personality, will she still love me? Will my husband be able to return to work and

make a living?

Since we are called upon to answer these questions almost daily, it seemed desirable to study the records in hope of improving the accuracy of our forecasts. The statistics in this paper are based upon the cases of 210 patients operated upon between September, 1936, and February, 1944.

Naturally, the character of mental disease is of primary importance in estimating the course it will follow. However, there are certain general factors which influence the prognosis regardless of the psychiatric classification. Among the general factors are the presence of nervous tension, the age of the patient, the duration of mental symptoms or disability, and the length of hospitalization and the degree of break with reality.

Equally important as the character of the psychoses of psychoneurosis is the individual's personality before the onset of mental symptoms, and this must be carefully evaluated before one can venture an opinion as to the outcome.¹

GENERAL FACTORS

Prefrontal lobotomy has certain risks; nearly 400 patients have been operated upon and there have been 12 operative deaths, so the operative mortality is 3 per cent. Convulsive attacks occur in 10 per cent of the patients. They are generalized in character and associated with unconsciousness. The first attack usually occurs between 9 and 15 months after operation. Approximately half clear up spontaneously or can be controlled by medication, which means that one patient in twenty continues to have several attacks a year indefinitely. Although there is no way at present of determining which patients will develop convulsions, it is possible that electroencephalograms may be of some help in the future.

Age—The results of prefrontal lobotomy are better in the elderly than in the young. While this may seem paradoxical on first thought, the reason for it soon becomes apparent. An individual who has adjusted satisfactorily until the age of 55, then has a nervous breakdown, is made of pretty good stuff. He has already made a place for himself in society, and after lobotomy he can resume his old work which he knows well. Old age is not a contraindication; we have operated on a number of patients in the seventies with good results.

When a person breaks down in his teens merely because he has been studying too hard, the stuff his personality is made of is rather fragile; a careful history often reveals that this individual has never gotten along well with people. Therefore, even if the mental symptoms which are the cause of disability are relieved, the chances of such an individual making a satisfactory adjustment are not as good. He has to finish his education, choose

a profession or find a job, and undertake work which is entirely new to him.

Nervous Tension—Prefrontal lobotomy consists of cutting the pathways in the frontal lobes just anterior to the tip of the ventricles; the cuts are made in the plane of the coronal suture. It is our opinion that the benefits of lobotomy are the result of section of the thalamo-frontal pathway. Following operation a patient may still have peculiar ideas; he may still cling to the belief that he has syphilis, or he may hear voices accusing him of sexual perversions; but if they no longer produce fear or nervous tension, they no longer dominate the individual and the ideas often die of inanition. When the disability is due, not to the peculiar ideas, but to the emotional charge associated with the ideas, then lobotomy offers a solution. On the other hand, when a patient sits around listening to voices that no longer excite him, it means that he has given up the fight, and lobotomy has nothing to offer.

Therefore, in selecting patients for operation, we choose those in whom nervous tension, apprehension, anxiety, feelings of guilt, are prominent symptoms.

When possible the operation is performed under local anesthesia, as it is possible in this way to determine just how much to cut.

Patient's Relatives—The interest and coöperation of the relatives is an important factor in the prognosis. If a patient can return home after operation with a nurse or in the care of relatives, he has a much better chance of resuming a useful place in society than if he is left to his own devices on the back ward of a mental hospital. In order to hold the interest of the family and keep their confidence we must tell them what to expect. Occasionally we have failed to inform the relatives about the immediate postoperative course. Recently a husband called up in great distress to know what had gone wrong: "My wife does not even know where she is, her conversation doesn't make sense, and she has lost control of the bladder." When the family has been warned that disorientation is used as a yardstick to determine how many pathways to cut, they are delighted when they find it and will often make notes of the conversation showing evidence of confusion. They are also told that re-operation is necessary in one patient out of seven or eight, so that, when this becomes necessary, it is just what they expected all the time. If the relatives lose hope and give up the fight, they are liable to allow the patient to go to a mental institution and (unless it is one where there is an interest in psychosurgery) the prognosis immediately becomes worse.

If the lobotomy is performed under local anesthesia and the patient is confused and disoriented

at the conclusion of the operation we know that sufficient pathways have been cut. If the operation is under general anesthesia, we must wait until the next day or even several days to decide if a second operation is necessary. Euphoria in the absence of confusion or drowsiness presages a relapse.

Previous Personality—If apprehension and anxiety are to be relieved and the sense of responsibility reduced, a knowledge of the prepsychotic personality is necessary in order to make a forecast of the probable social adjustment. In 1937 we operated on a man with a psychoneurosis of 18-years' duration, who was depressed and suicidal. The patient was completely relieved of his symptoms and his brother reports that hardly a day goes by that he does not recommend prefrontal lobotomy to some acquaintance. Unfortunately, when his inhibitions were reduced, he abused his wife, ran his son out of the home, and lost his business. On going into his history in more detail, it was learned that as a boy he had kicked his younger brother's dog to death, he had never liked his son, and had even tried to produce an abortion by taking his wife over the roughest roads in the country in a flivver when she was pregnant. He had been involved in several questionable business deals and each time went to a sanitarium until the matter blew over.

Three alcoholics with feelings of inferiority have been operated on. All claimed that the feeling of nervous tension which was present before lobotomy was much improved, but all three are still alcoholics. One got drunk before he left the hospital. Two spend just as much time in mental hospitals as before operation. One of these men is not dissatisfied with the result because he can now get just as drunk on a pint of liquor as he could on two quarts before. Incidentally he removed a typewriter from our office and pawned it. The third is earning a satisfactory living as an attorney but goes on sprees periodically. Psychosurgery is not recommended for alcoholism. Neither is it recommended in psychopaths and overt homosexuals.

INVOLUNTIONAL DEPRESSIONS—82 cases

Results

	Good	Fair	Poor
	%	%	%
Duration—less than 2 years.....	78	9	13
Duration—more than 2 years.....	54	20	26
Disability—less than 2 years.....	78	10	12
Disability—more than 2 years.....	35	35	30
Hospitalized—less than 2 years.....	60	24	16
Hospitalized—more than 2 years.....	42	25	33

We shall now discuss the prognosis in some of the major mental syndromes. Tables indicating the influence of the duration of symptoms, length of disability and hospitalization will be shown. Illustrative cases have been selected in which the course of the disease did not follow the forecast, and the

record has been studied to learn how the prognosis might have been more accurate. Obviously little would be gained from presenting cases in which we hit the nail on the head.

Mrs. E. B., aged 56, Involutional Depression, Result better than the forecast.—An unmarried executive in a department store, careful, conscientious and devout, became depressed, tense, agitated and fearful in May, 1937. She lost appetite, sleep and weight, was anxious and apprehensive, thought she had committed the worse sin of all, imagined that the nuns in the nursing home were laughing at her. She was moody, suspicious and antagonistic. She wept copiously on occasion, refused to talk to the examiners, threw the test objects about and was generally uncooperative.

The prognosis in this case was considered good. The family was told "it is our opinion that the symptoms will be relieved and the patient can probably return home two weeks after operation." It was explained that it was not possible to say if she would return to work, because lobotomy often produces so much inertia that the individual is content to sit around home and let others worry about making a living. If she did return to her job, she might not be able to hold it, because individuals become more outspoken, more disposed to speak the plain truth. She might tell one of her customers how she really looked in a dress, instead of how the customer hoped she looked.

Prefrontal lobotomy was performed on January 13th, 1938, after which date the patient was dull, stuporous and unresponsive for several days. She then showed disorientation and continued antagonism; but by January 18th she was euphoric, talkative, sneering and manifested hostility to her physicians. Within a week this phase passed; there was no manifestation of fear or hostility; the patient became genial and apologized for her behavior.

This woman returned to work in August, 1938, and has been regularly employed during the last eight years. Her salary has been increased; she is energetic, cheerful and easy to get along with; she is more outspoken at home, but is restrained when dealing with customers. She attends mass daily. A prognosis can never be as good as the result in this case.

Mrs. M. T., aged 65, Involutional Depression, Symptoms relieved but social adjustment poor.—The first nervous symptoms occurred in 1917, lasted a month, and a diagnosis of hysteria was made. In 1937, after having insomnia for several weeks, she suddenly became agitated and feared she was losing her mind. She was confined to hospitals from 1937 until July, 1941. Her condition at the time we first saw her was typical of her illness. She talked almost continuously: "Oh, my God, what have I done to deserve all of this? Nobody ever felt as bad as I do. There is no use operating on me because nothing will ever help me. If I'd only looked after my husband and children. Why do I have to be like this?"

In making the prognosis we felt that even though the patient had been confined to a sanitarium for four years she would probably be able to return home. She was well oriented and intelligent and it was considered probable that she would be able to resume housekeeping.

This patient was relieved of her feeling of guilt, the agitation disappeared, her appetite returned, she gained weight, and she felt wonderful—too wonderful. She was lazy and often stayed in bed until noon. She had been told not to disturb her husband, 80 and dying of heart disease. Often after he had just fallen asleep she would go in his room, shake him and say: "Honey, how are you feeling? I just wanted to know how you are getting along?" If she wanted the chauffeur, she did not hesitate to walk out in the hall in brassiere and panties and yell for him until he arrived. She became quite annoyed while attending an auc-

tion sale in Atlantic City, when her companion would not allow her to buy everything which the auctioneer presented for sale. She said it was her money. At present she is in a sanitarium because of overactivity, teasing, talkativeness and general intransigence. She is jovial, hearty, grandiose and exuberant.

On reviewing the history we find some statements which might have led us to suspect difficulty in social adjustment. Before the nervous breakdown, she was often rude to her stepchildren and apparently made efforts to break up her second husband's family. She was rather careless about exposure even before the servants. On one occasion, without apparent cause, she bent her grandchild's finger back until severe pain was inflicted. Another time, while at a nursing home, she tied a rope around a dog's neck and nearly choked it to death.

While Mrs. M. T.'s symptoms might be what one would expect rather often from nervous tension, anxiety and fear of the consequences, there have been only two other patients with involuntional depression who are considered poor results because of the development of a state like this. The reason may be that most patients in this group are hard-working, exacting and meticulous. They have a strong sense of duty and are over-conscientious. If these qualities are reduced by lobotomy, they still have enough to get along with. Other poor results in the involuntional depressions were attributed to relapses due to incomplete operation in two cases, profound inertia due to too extensive an operation in two cases, carbon monoxide-poisoning in one. In four cases the cause for failure to relieve the symptoms could not be determined.

SCHIZOPHRENIA—based on 65 cases

	Results		
	Good	Fair	Poor
	%	%	%
Duration—less than 2 years.....	85	7	7
Duration—more than 2 years.....	31	27	41
Disability—less than 2 years.....	58	3	38
Disability—more than 2 years.....	30	42	27
Hospitalized—less than 2 years.....	47	16	37
Hospitalized—more than 2 years.....	31	41	27

While glancing through a magazine a year or two ago, we saw the advertisement of a large insurance company. The illustration showed a few men clearly outlined in the foreground with hundreds of indistinct figures in the background. The legend read, "We know how many men in a thousand live to be ninety years of age, but we do not know which ones." We are about in this situation when making a prognosis in dementia praecox. We have statistics on a small number of patients who have been followed only a few years. We know that a good many people who were disabled are now leading useful lives.² One young man, who had never been able to hold a job, still hears voices, but since lobotomy they no longer disturb him, and he has been regularly employed at the Bureau of Standards for three years. The patients who respond best to lobotomy are those who are emotionally disturbed by ideas of persecution, voices and indecision. When the emotion dies and the individual lapses into a dream world with no struggle against the manifestations of disease, psychosurgery is of little aid. Although the time factor is important, as shown in the table, it is of less importance

than the degree of break with reality.

Miss T. D., aged 31, Schizophrenia.—At the time of prefrontal lobotomy in March, 1942, this patient was a high-school graduate and housewife. The year of onset was 1934 and she had been disabled since 1938. Her symptoms began with hallucinations, delusions of persecution, and religious tendencies. There were alternate periods of melancholic and mania. When first admitted to a mental hospital she appeared indifferent to her surroundings and would usually giggle in answer to a question and reply, "I don't know," or "I don't remember." She was given a course of 20 metrazol treatments in 1938 after which she improved for a short time.

She would be fairly quiet and cooperative for a few weeks, then become fearful and angry, this mood followed by marked restlessness, loud and vulgar talk. She would become untidy; refuse to keep her clothes on; fight with other patients, and spit upon anybody who came within range.

As to *prognosis* in this case, it was thought that the depression would be relieved. At that time we had had little experience with manic symptoms, and could not state that she would not be thrown into a state of constant hyperactivity. Although she had been confined to a mental hospital for four years and had hallucinations and delusions, she still exhibited a marked emotional response to them which might be relieved by lobotomy. The temporarily favorable result with metrazol suggested that a prolonged favorable result might follow lobotomy. It was considered probable that the patient would be happier in an institution, with a slight chance that she would be able to live at home.

In March, 1942, a prefrontal lobotomy was performed. The patient was drowsy and confused for three or four days, incontinent for a short time, but bland and cheerful. She gained weight, indolence gradually disappeared, she resumed housekeeping, and now has a part-time job in addition. She dresses attractively and her hair is well groomed.

Miss O. H., aged 38, Schizophrenia, Strong-room Case.—This woman, who was over six feet tall and weighed 240 pounds, was admitted to the hospital in December, 1938. Her first nervous breakdown occurred in 1936. This huge woman, with not an ounce of fat on her body, when she had to be transferred from one room to another required five or six attendants to make the transfer. She was allowed very few privileges and had to be confined to a strong room much of the time, because when she went on a rampage it was impossible to handle her. She did fine needlework, made all of her own clothes, and was usually neatly dressed.

The *prognosis* was considered good and it was thought that if this patient's aggressive tendencies could be removed she would probably be able to return to her home and resume housekeeping.

A radical prefrontal lobotomy was performed in February, 1944, cutting the pathways posterior to the coronal suture. She improved and within three weeks was out on the open ward having meals with the other patients. She had not been excited, hyperactive, assaultive or obscene—which she was before operation—and has shown no aggressive tendencies. She is still in the hospital because her physicians and attendants have not forgotten all of the trouble she made. Her husband is a little man who is not in good health and his wife, who weighs 280, seems like a big problem to him at home.

The next two patients with schizophrenia illustrate the difficulties of making an accurate prognosis.

Miss D. B., aged 39 at the time of her lobotomy in 1944, had had mental symptoms since 1925. She had spent half her life in mental hospitals. After one course of shock therapy she was able to remain at home for a year. At the time of operation, although she had some distortion of ideas, she seemed quite well oriented.

The prognosis here was poor because of the long duration of symptoms and slight amount of nervous tension. It was considered improbable that she would be able to live at home again. Following prefrontal lobotomy in September, 1944, she returned home and within a few months was attending church and the movies and going to parties. At the present time she eats excessively, is too outspoken, but goes down town alone and sometimes shops alone. The result was much better than was anticipated.

Miss F. L., aged 26, had schizophrenia of only a few months' duration. She was employed until three months before the lobotomy when rather suddenly she thought that people around the office were saying untrue things about her and trying to undermine her reputation. She was under great nervous tension. Except for being rather aggressive her previous personality was good.

The prognosis in this case was considered excellent, and it was predicted that she would be able to return to her job as Field Worker with the Social Security Board within four to six months.

A prefrontal lobotomy was performed in July, 1941; she relapsed in October, 1941. In November, 1941, a second lobotomy was performed without any noticeable alteration in the symptoms. She was operated upon a third time the same month, cutting even more nerve pathways with practically no improvement. She was unable to live at home and, subsequently, has been confined to a mental hospital continuously.

A patient with this symptomatology should be relieved by prefrontal lobotomy. The fact that she was not improved indicates there are some underlying factors which are still very obscure.

PSYCHONEUROSES—45 cases

	Results		
	Good	Fair	Poor
	%	%	%
Duration—Less than 5 years.....	86	7	7
Duration—More than 5 years.....	73	17	10

The obsessive tension states make up a great majority of the psychoneuroses in which psychosurgery has been employed. The prognosis is good even when the symptoms have lasted for two or three decades. We have shown that it is the emotional charge which causes the disability rather than the peculiar ideas themselves.³

In recent studies, we have pointed out that social adjustment is satisfactory and that the majority of patients are usefully employed after lobotomy. Most of the individuals who were working, or who had been out of work only a short time, when the lobotomy was performed, are able to return to their old positions and discharge their duties satisfactorily.⁴

Intelligence does not appear to be impaired by lobotomy. If we emphasize the practical aspects of intelligence, we may say that pragmatic intelligence is improved; because 67 per cent are now leading useful lives, as compared to 17 per cent who were usefully employed before operation.

Care must be exercised in the selection of pa-

tients if cases of disagreeable, aggressive behavior are to be avoided.

It may be of interest to this society to have a follow-up on a lawyer whose case was reported at the meeting in Charlotte, North Carolina, in February, 1944. He was 35 years of age at the time of development of nervous symptoms in 1938. At that time he was a partner in a law firm in New York. His work deteriorated so much that, in December, 1938, he was dropped from the firm.

When the patient was asked what he was complaining of, he stated that he was unable to find a job. He had tried two or three times in the past two or three years, but the rest of the time sat around home and worried about not being able to find a position. When his wife suggested that he try to find something, he always found some excuse for not doing it. He had become irritable, slept poorly, and sat around all day worrying about not having anything to do. He weighed every question put to him, and when he finally answered, qualified every statement. When asked if he thought that everyone who could not find a job should have a prefrontal lobotomy, he admitted after some consideration that this would be foolish, and yet when asked immediately afterwards why he came to the doctor, he said it was because he could not find a job.

As he was obviously under nervous tension, it was decided to give him the benefit of a prefrontal lobotomy; so, on November 7th, 1940, he was operated upon. This man did not return to work until April, 1941; but he no longer worried about being out of work. In April he opened his office for the practice of law; after six months he closed it, because he had no clients. In January, 1942, he got a clerical position with the Government, and discharged his duties satisfactorily.

In 1944, he was an Examiner for the Civil Aeronautics Board, and since that time has received several promotions. He still has this position and recently sent us a copy of a report which he had made upon the Application of an Airways Company to the Civil Aeronautics Board. The report is a 150-page manuscript giving details about flying operations, flight equipment, passenger service, advertising and publicity. It gives the impression of being carefully prepared.

Comment—While the relief from mental pain afforded these patients is important, long-term follow-ups about their progress and accomplishments are infinitely more important.

CONCLUSIONS

The character of the mental disease is of primary importance in forecasting the course that will follow after prefrontal lobotomy. There are also certain general factors which influence the prognosis regardless of the psychiatric classification; among

which are: the factor of nervous tension, the age of the patient, the duration of mental symptoms and disability, and the degree of break with reality. A careful evaluation of the individual's personality before onset of mental symptoms must be made before one can venture an opinion about the probable social adjustment.

A fairly accurate prognosis can be made in the involutional depressions and the psychoneuroses.

In schizophrenia we are still in the position of the insurance companies: we know the percentage of patients who will get good results; but we cannot predict which individual patient will be improved.

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Discussion

DR. HOWARD MASTERS, Richmond:

We are very fortunate in having Dr. Watts give us the results of the operations that he and Dr. Freeman have done. They are pioneers with this operation in this country.

They make a wonderful team here of a neurosurgeon and a psychiatrist. The patients are appraised by the psychiatrist very thoroughly and then operated on. Dr. Watts has done a number of these operations for me and one patient, as he mentioned, didn't do so well at first. He reported his bad results very frankly and honestly. I attended the operation. He cut first on one side. She continued to have her agitated speech and to say that she was worrying. He cut then on the other side. Then I asked her what she was worrying about, and she told me she had never worried in her life. That was immediately after he made the incision, so we see that many of these patients lose their tension and their worries and some of their ideas rather quickly, whereas others maintain their psychotic behavior and illusions for a time.

Another patient he operated on had to be brought from the hospital in an ambulance in a restraining sheet. A year later when we saw her, she not only was well, but her family said she was better than she had been prior to her illness because she had lost some of the aggressiveness which she had had previously, which was very hard on her family; and that she was now living a rather normal life.

Dr. Watts brought out the change in the individual in losing the sense of propriety and appropriateness, not being as aware of those things in his environment as he was previous to his illness. That is the reason some of these patients have to be observed closely; some of their actions may be still inappropriate and disadvantageous either to themselves or to their families.

The paranoid patients, thinking they are being persecuted by others, occasionally becomes more aggressive after

the operation; and, therefore, are more dangerous to the ones they believe are persecuting them. Sometimes such persons have to be hospitalized over long period of time.

By and large, the operation is certainly a blessing, because it does give relief in a good many of these very disturbed, agitated or involitional cases that are tremendously hard on families, and save many from having to live in psychiatric hospitals for many years. They can be reclaimed, put back into their homes and people can live comfortably with them.

I hope they will keep up the good work.

DR. J. K. HALL, Richmond:

Someone has said that a conservative believes that nothing should ever be done the first time. Dr. Watts and Dr. Freeman have removed themselves from the category of conservatives, if they were ever grouped in that domain.

I have had no personal experience with the work of Dr. Watts and Dr. Freeman. I have seen some patients, though, who have been restored by their operative therapy; and whether the procedure brings about restoration through removal of tissue or through rearrangement of tissue and influences on the pathological psychology, I don't know. I am not certain that I know anything about how the curative agencies operate.

I expressed the hope to a mother, three or four years ago, that her son would recover his mental normality. He was in a badly disordered state mentally. I had to tell her that I didn't know what would bring about her son's normality.

I don't know how quinine cures malaria or how the antitoxin cures diphtheria. I have no idea why an incision made by the surgeon through the abdominal wall ever grew together. I don't know why it can't stay like the surgeon left it.

I suppose if I were to go with Dr. Watts along the pathway to his ancestral past, I would land in Scotland with esteemed people, hymnologists perhaps, and theologians, teachers, preachers. I lived with Walter Freeman's ancestry some time back. His father was a very well known surgeon. His maternal grandfather was in some ways the greatest surgeon of this country, perhaps of the world. He was Dr. W. W. Keen. I can understand Walter Freeman's inclination to practice materialistic medicine even into the domain of the immaterial.

We are in an unusual era now in respect to mental disease. I was wondering last night here in this hall what Carl Menninger and Gregor Zilsborg and Franz Alexander and numerous other psychoanalysts would have thought of Dr. Moore's essay on pain, human pain. As I understood it, in his opinion, it is of physical origin. Some of the psychiatric doctors believe there is such a thing as pain of mental origin, psychogenetic pain.

I can think of nothing more irrational within the domain of medicine or outside of it than the so-called shock therapy. Giving a patient, who is what the lawyers call "insane," a physical convulsion with associated unconsciousness, seems irrational. Most doctors are anxious to keep their patients from having convulsions and from losing consciousness. However, we found out that the so-called shock therapy or the justice of shock therapy is valuable. It is restoring a good many mentally abnormal human beings to apparent normality. I think it is badly named. I don't like the word "shock." I don't like to be shocked, and I don't like to think of shocking anybody else.

I am more interested in the attitude of Dr. Watts and Dr. Freeman through the psychiatric therapy than I am in what they are actually doing. They broke away from the static, rather hopeless, attitude that I knew in my younger days in medicine towards mental disease; and they conceived the idea that something could be done for the mentally sick, and went ahead in the effort to do some-

thing, often against vigorous criticism.

It is remarkable the things they are doing. It is still more remarkable that they were able to be willing, two young men, to believe they could do it and to undertake it.

I know of no better place in the world where operative work on the human brain ought to be done, even on a large scale, than in the District of Columbia. Instead of limiting the work to lobotomy, they might often do a bilateral cerebrectomy, and I think an enormous number of decapitations would be of great value.

I am grateful to Dr. Watts for coming down here and giving us this splendid paper. We had some excellent papers yesterday and two splendid papers last night. They are in keeping with the quality of the program that this Association always offers. The Association gives a doctor, regardless of who he may be, whether he is a distinguished or obscure man, whether he is a family doctor or specialist, the opportunity and encouragement to express himself and to rationalize his philosophy. Certainly, we are all deeply grateful to you for your message. Dr. Watts, for your achievements and for you, yourself, and for Walter Freeman.

DR. J. M. NORTHINGTON, Charlotte:

I would just like to ask Dr. Watts, in closing, to give us as well as he can, a general outline of the prospect of the treatment proving helpful to patients with dementia praecox, somewhat according to the time that this disease condition has lasted. He emphasizes that he can't always tell which person is going to be benefited and which is not; but what percentage of different ages could look forward with reasonable hope to improvement after two years, five years, ten years?

I realize this is right much of a task, and I don't expect him to answer categorically.

REV. JOHN W. LOWE:

I am not a physician. I had three years of medicine in Louisville before going to China; but I would like to speak in regard to my son. He had a breakdown in college and was sent to Pratt for a year and recovered. He then went to China where he was in business. Then he went to west China with the Standard Oil Company. He was in Chungking alone for three years and the bombing was too much for him. He was sent to a hospital and finally he was sent to a state hospital, after he had come to San Francisco. The diagnosis was dementia praecox.

I just want to ask the doctor to go along with that in regard to Dr. Northington's question as to the outlook in these cases. We, his family, are in great anxiety and we need help. If any of you could give us any suggestions, we would be delighted.

DR. WATTS (closing):

It was really worth coming down here just to hear what Dr. Hall had to say. I am sure our work is not that good, but it is nice to hear it anyway.

In answer to the comment of Dr. Masters, we tried to attribute our results to a specific operation, prefrontal lobotomy, and almost never mention the psychiatric care that these patients get. It is my opinion that these patients get the best psychiatric care to be had, either from the psychiatrist to whom they are returned, or those in our vicinity from Walter Freeman. Without that, many of our satisfactory cases would have to be returned to mental institutions.

The things that he said about the paranoid and about the other cases that may do embarrassing things afterwards are true. They require guidance, particularly cases of schizophrenia.

Dr. Northington asked for an outline. I believe he mentioned the prognosis rather than the treatment because

others, Dr. Masters, for instance, could give the treatment so much better than I could; but the prognosis in dementia praecox, according to these tables, are: patients who are operated upon within two years are classified as getting good results in 65%. After two years, the good results fall to between 35% and 40%, with moderate improvement in 35% and no improvement in 35%.

The results in the involutional depressions are good in 60% in the first two years and fall to around 55% or 60% after that. Nearly every patient now who is operated upon for dementia praecox has either had insulin or electro shock. We operate on a good many patients with psychoneuroses who have had no psychotherapy, because Dr. Bennett of Omaha, who is getting such good results by shock therapy and who is so enthusiastic about it, admits that he can't influence the obsession tension stage. So, in the obsession tension stage, our results are good in 85 to 90%, and even after five years they are good in some 75%.

Instead of going into details with the gentleman whose son broke down in China, I believe it would be better if I could speak to him afterwards privately, which I shall be glad to do.

I certainly appreciate being given the chance to speak to you and to hear the discussions.

THE EFFECT OF VARIOUS SUTURE MATERIALS IN WOUND HEALING

(Graham Owens & Jean Rubbra, Kansas City, Mo., in *Jl. Kansas Med. So.*, July)

Stainless steel wire is, in our opinion, the finest suture material at present available. It is almost reaction free, chemically practically inert, economical, and gives fewer wound complications than any other type of material. We have reviewed a recent series of 586 operative wounds. Catgut wounds showed an infection incidence of 14.7%; 7.4% of wounds sutured with cotton became infected. In 305 cases where wire was employed the incidence of infection was only 1.9% despite the fact that wire was used in 51 of 70 probably contaminated and 27 of 39 surely contaminated wounds. Catgut was used in only 18 of the former and 12 of the latter.

The use of wire suture material in combination with transverse anatomically sound abdominal incisions provides maximum comfort for the patient and a minimum of wound complication.

PROGRESS IN THE TREATMENT OF GONORRHEA

(G. C. Poore, Portland, in *Jl. Maine Med. Assn.*, July)

Summary of results of therapy of gonorrhea % of cure reported—local, 100% at 114 days; average duration of local 73, shortest case, local, 45; vaccine, 36%, 35 days; antitoxin, 93%, 28; fever, 83%, 26; operation for PID, 90%, 18; sulpha drugs, 86%, 5; penicillin, 98%, 1 day.

GLYCERITE OF HYDROGEN PEROXIDE IN MIXED INFECTIONS OF THE SKIN AND MUCOUS MEMBRANES

(E. A. Brown, London (Eng.), in *Jl. Maine Med. Assn.*, July)

Glycerite of hydrogen peroxide's best effects have so far been achieved in the treatment of infections of the ear canal; bacterial and fungous infections of the skin; subacute and chronic infections as seen in varicose and diabetic ulcers and grossly-contaminated, lacerated wounds, and as a postoperative dressing.

Investigative work, now in progress, is concerned with the evaluation of the solution in lung infections as seen in empyema and in bronchitis, bronchiectasis and tuberculosis.

Discussion on the Stethoscope Versus X-rays

JOHN DONNELLY, M.D., F.A.C.C.P., Charlotte

UNTIL the last twenty-five years the main emphasis in teaching lay on physical examination hardly altered for a century from the methods of Laennec. The advent of x-rays has added a method of examination which has greatly increased the accuracy of diagnosis, so much so, indeed, that x-ray studies are now recognized to be essential in the diagnosis of all respiratory conditions.

Thus Benett¹ introduces a discussion of this important subject, which discussion will be used as a basis for a presentation of some ideas of the author which are deemed of consequence.

Most doctors are apt to assume and, even worse, to announce to their patients that the failure to detect physical signs implies a healthy respiratory tract. This mistaken idea leads to the unfortunate result that disease of the lungs, and in particular tuberculosis and bronchial carcinoma, is almost certain to be missed at the very stage when treatment would stand a good chance of success.

The reason for this attitude on the part of the doctor must lie in his training. Many months are spent in drilling the student in physical signs, whereas chest radiology is given a subordinate place in the curricula of medical schools. It would appear that the object is to produce a clinician who is competent to reach a diagnosis after signs are present; but this teaching fails to stress the fact that disease may exist without any abnormal physical finding. It would be difficult to keep the student to the requisite pitch of keenness in the face of such an admission, for he would naturally wonder why he should spend so long a time learning physical signs, when an x-ray picture must always be taken in order to be sure that something has not been missed. If chest x-ray examinations were entirely reliable there would be something to be said for abandoning the teaching of physical signs; but there is a definite percentage of error, even in well-taken films, and to abandon the pursuit of physical signs would be calamitous.

The standard postero-anterior film is a composite picture of the whole depth of the chest, and large lesions may sometimes fail to cast a shadow if they be far to the front or to the back. Also a small lesion may be obscured by a rib or clavicle, and a large area of the lung field is hidden behind the heart and below the dome of the diaphragm. Early tuberculosis and early malignant disease may be easily missed, and the patient may have bronchiectasis and not present any radiological evidence. Many x-ray pictures, which include the standard postero-anterior film and also antero-posterior and

lateral views, yield far more information than can be obtained by the method commonly in use. In some cases further evidence will be furnished by a bronchogram or tomogram when no abnormality has been seen on the plain film. In order to be quite certain that the chest is healthy we must therefore still depend upon the combination of physical and x-ray examination; and the teaching of the student must include both of these in their proper proportions.

Rales do not necessarily reveal bronchiectasis or cavitation, and bronchiectasis cannot be positively diagnosed by a single x-ray film. In fact, a simple x-ray film is of very little help in diagnosing this condition. However, a good x-ray film made following the instillation of lipiodol into the bronchi will usually outline definitely the bronchiectatic cavities.

Bronchi and sibili indicate bronchitis or asthma, while rales reveal bronchiectasis or cavitation and friction is diagnostic of a dry pleurisy which often shows no trace on the x-ray picture. The chief emphasis in the teaching of physical signs should therefore be laid on added sounds. Inspection, palpation and percussion will still have their place, but the information these measures afford is simple to read and to interpret. Many of the older signs, Grocco's triangle and the rest, are of traditional value only, and the time has come for them to be abandoned.

Should the reporting of the x-ray examination be done entirely by radiologists, or should the student be taught to read his own films? The clinician, who is familiar with the physical condition of the patient, is in the best position to interpret chest x-rays, and it would seem of the greatest importance that the student should be taught this art at an early stage. In the departments of anatomy and physiology he should receive a thorough grounding in the radiological appearance of the normal chest. Good films, taken in all the standard positions, would be of far more use to him than much of the descriptive anatomy which is taught at present, and normal bronchograms would convey a clear conception of the bronchial tree as it functions during life. With this basis, and with subsequent instruction in the interpretation of abnormal appearances, the x-ray film would soon convey information which he would be in best position to apply to the needs of the patient.

Finally, there is the legal aspect to consider. Failure to advise that an x-ray examination of the chest be made has many times been considered to

1. Benett, T. L., in *Proc. Royal Soc. of Med.* (London), May,

be evidence of neglect in the investigation of a patient. Nowadays it would not be a good defense to show that a full and careful physical examination had been carried out, and this might well be a serious matter for the medical man concerned.

The discussion of Benet's paper before the Royal Society of Medicine elaborated points already made and brought out others barely, or not at all, touched on.

The limits of the stethoscope have been reached but within those limits it is an efficient and indispensable instrument. If a competent physician finds added sounds in the chest, it is unusual for radiological examination to be negative, provided the proper technique has been used. Moreover auscultation can give decisive evidence of activity in a tuberculous lesion which radiologically appears to be completely healed.

Most radiological errors are due to inadequate use of the method and reliance on a single film. Although we know that many lesions hidden in the mediastinum can be revealed by a lateral view, and that lesions hidden by the ribs and breasts are shown by an antero-posterior view, such views are not taken as routine procedure. Tomography which often throws immense light on unsuspected pathological changes is not used nearly enough.

Many different diseases show what are apparently identical radiological appearances, but if we can obtain increased detail and use new methods to delineate all the different structures in the chest, radiological diagnosis may approximate to that of the morbid anatomist. We know that we can get improved detail by using higher speeds and finer focus tubes. Generally speaking the finest detail on a radiogram is equal in size to the focal spot of the tube. At the moment we are using tubes with focal spots of 1 and 2 mm., but foci of 0.1 mm. capable of withstanding high loads at short speeds should appear during the next few years. The use of these new factors would not only greatly increase detail but would enable us to produce double and quadruple magnification of suspected areas. Some experimental work has shown that we can differentiate the superficial and deep lymphatics in certain diseases, and we should soon be able to distinguish isolated tubercles from small end-on vessels.

In the examination of the heart, x-rays lag far behind the stethoscope: but if we consider the cardiovascular system as a whole there are many pulmonary vascular x-ray appearances, such as azotemia and impending failure which precede any clinical or stethoscopic findings by an appreciable interval. Cardiovascular radiology has been built up largely by cardiologists who have made great advances by fluoroscopy, but screen examination is no substitute for radiography. The use of elaborate equipment and such new methods as angiocardiog-

raphy should give a new impetus to the investigation of heart disease and might even relegate the stethoscope to a subsidiary position.

Several works have lately been published on the x-ray appearance of the heart, in regard to the size and shape of the organ in the different conditions. Very definite opinions can be drawn by noting the shape of a diseased heart, as to which valves are affected.

Radiologic examination is superior to the examination by the stethoscope, or for that matter, to physical examination generally, in the investigation of the vast majority of chest conditions. It is possible to show by x-rays lesions which give no physical signs, because of the very nature of the lesion or because physical signs are masked by overlying emphysema.

In a very large group in which physical signs are present, radiology is of considerable importance. Diminished expansion, hyper-resonance, impairment of percussion, alterations in intensity or character of the breath sounds, alteration of voice conduction and the added sounds merely indicate change in the underlying lung or pleura, such as the presence of fluid or air in the pleural cavity, of consolidation or collapse in the lung, or breaking-down of lung tissue, or of fibrosis; yet these pathological conditions may be common to many of the diseases found in the chest. There are thus no physical signs of pulmonary tuberculosis, no physical signs of carcinoma, no physical signs of lung abscess, as the textbooks would suggest. The physical signs in all these three conditions may be identical. The shadows caused by these conditions are, however, frequently diagnostic.

Again, where physical signs are present, and the diagnosis beyond doubt, in the vast majority of cases the extent of the lesion is more accurately determined by x-ray examination.

To point the contrast of these large groups mention is made of a few conditions in which there are physical signs present, and yet no radiological evidence of disease. The biggest group of these are the non-obstructive lesions of the bronchial tree, thus bronchitis may show little or nothing radiologically, and yet the physical signs of the condition may be extensive. There are certain cases of bronchiectasis which will show nothing in the flat x-ray picture; but the presence of persistent rales, particularly at the base, is suggestive of this condition. Silent bronchiectasis may be demonstrated by radiography in the absence of physical signs. Tracheobronchitis, tuberculous or otherwise, frequently gives no radiological evidence of its presence but physical signs may, of themselves, suggest the diagnosis.

Crepitations synchronous with the heart beat, once heard, will never be forgotten, and yet this

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

—FOR THE NIGHT COMETH

NOT OFTEN, but occasionally, I have wished to be elsewhere. Always I am wishing I were otherwise. I regret now that on April 3d, 1946, I was not at Chapel Hill, North Carolina, listening with all of my comprehending and understanding attributes to the address of Dr. Hardin Craig. He is Professor of English in the University of North Carolina. He spoke at a Convocation of the University in Memorial Hall. Students and fellow-faculty members, village folks and visitors heard him. I shall always regret that I was not one of his auditors.

But the words of his talk to the folks have reached me in a pamphlet from the hands of Hubert Royster, in Raleigh. I infer that that surgeon of keen intelligence and unwearied use of it failed, as I did, to hear the words spoken. But Doctor Royster penciled the notation that Professor Craig's address is the best thing he has read in a long, long time. That is a large saying, for in one long time, much less two, Hubert Royster has read much and many things. And he reads always with all of himself, present and past, and he reads always weighingly and understandingly.

As the University has increased in material magnitude the vocabulary it makes use of in speaking even of itself has also enlarged. Had the word convocation been spoken on the campus in my day there, I should have been sent to the Dictionary: had I not gone to Webster, I should have thought the word had reference to an assemblage of dignitaries of one of the older religious groups. And the word orientation, snatched from the ponderous polysyllables of the psychiatrists, is bandied about by freshmen and by seniors, too, just as if they understand its meaning. But I shall not be distracted from Professor Hardin Craig, not even by my resentment at the elimination of Greek and of Latin from the curriculum.

All along throughout his intimate and critical communion with his academic audience Professor Craig was voicing his protest against the deletion from the textbooks of the names of the only immortal teachers mankind has ever known—Socrates, Plato, Aristotle, Jesus, Saint Paul and a few others. The substance of the address is the disappearance of the individual. The girl and the boy go to college for the purpose of self-development. No school—grammar, high, college or uni-

versity—can educate anyone. The school merely affords the opportunity and provides encouragement for the individual to educate herself or himself. But Professor Craig sees few students, even in the University of North Carolina, who are interested in becoming educated. And he uses the word education to mean development of self. And the greatest opportunity that can possibly be made available for any mortal is the opportunity to work. Work is the paramount opportunity. In what other way can the individual disclose himself; to others, to himself? By what other method than by work can one give exercise to one's body and to one's faculties? How can one otherwise than through work presume to justify one's existence?

"If any college man will work intelligently, I guarantee his success. The matter is easy, in fact automatic. What the world needs, seeks and will pay for is honest, efficient work. The demand is simply overwhelming, and no intelligent worker needs to worry about his future. The world is full of pretenders, bluffers, loafers in disguise, bunglers, and inefficient executives. It simply cries out for the real thing. All a young man needs to do is to work intelligently at the task before him. And the world will come to his door to seek him out," so said Dr. Craig at the Convocation.

But he said also: "One who knows their [college students'] present idle state hesitates to recommend work to a great many of our students. If they acquire the habit of conscientious, intelligent work, it will cause them a lot of trouble. The point is that these troubles are sure to happen to them. Things will be done to them. I will dare them to try it. The world will insist on giving them prizes and praise, and will elect them to fellowships and to memberships in learned societies. People will keep offering them jobs. They will promote them, increase their pay, and also increase their responsibility. They cannot keep the world from doing this. These working students will be made into supervisors, directors, executives. Further demands will be put upon them for more and more important and intelligent work. They will probably make money, and will have to take care of that. The community will come and lay its burdens upon them. They will have to listen for hours to interminable bores who are around trying to get something for nothing. They will have to look after those in the community who have nobody to look after them. They will have to look after the poor and the unfortunate, and the Church will demand their support. The people will elect them to public office, perhaps to Congress, and then their situation will indeed be bad. They will certainly have to write books and make speeches. I say to them, 'If you do this, you will have no rest, but, son, you will have become a man.'"

Take to heart yet another paragraph of Dr. Hardin: "The gods look down in scorn at your athletic fields. You can, if you bend your ear, hear the cackle of their laughter over the stadium; not because we are playing games (the gods like games), but because we have made games our business. They smile derisively at our courting, not because they do not approve of human love, but because we are making our institutions of learning into matrimonial agencies. It is what we do that matters; it is not what we do not do. Let us get over the idea of putting our attention on reform. Let us put it on performance. It is no doubt an unworthy thing for a girl to come to the university in order to capture a husband, this in the light prefer to do, and that one refrain from what one of all the opportunities and responsibilities before women in the modern world. No woman in such circumstances ought to be a time-waster and a narrow, selfish creature. The vigorous, active man or woman will, like the Elizabethans, take his life, both public and private, both play and work, in his stride."

Be heartened by the Professor's deep-seeing insight: "There is nothing so abundant as ability. The ordinary man lives up to about one one-thousandth of his capabilities, and it follows that the improvement of an ordinary mind soon excels the neglect of a better. . . . Slow minds are for many purposes better than quick minds. Native gifts, neglected, are always being beaten by industry and perseverance. . . . The thing that makes the greatest difference is industry. . . . If we could find out why college men are so lazy and so indifferent, we might achieve success."

Professor Craig knows there is nothing commoner than talent among modern men and nothing rarer than ambition, industry and faith. Because the student is indifferent, lazy and no-account he does not work, and because he does not work he does not succeed. "There is no other group of men that I know of in our country who are so indolent [as college students]."

And the world is no better off with such an individual than it would be without him. The college student is a drone; he burdens the world; he fritters away his life and he makes no contribution to civilization.

Yet he could succeed easily and admirably if he would only work. Even the uncouth and the unappealing and the unpopular student ultimately makes the bell ring if he possesses common intelligence and if he works day after day, night after night. There is no substitute for work. It has always been the causative factor back of achievement. The life that is easily lived is poorly lived. Success does not attend it. Those who stand out in history because of their achievements lived

laboriously and not easily.

Do you doubt that, in reading of the Renaissance that would come in North Carolina if the college students would only individually go to work up to the level of their capacities, you are reading the hard philosophy of John Calvin? I realized by the time I had reached the second paragraph of the address that I was being tutored by that hard and unyielding pedagogue on whose unpalatable but sustaining diet the Presbyterians of pioneer days fed themselves and their children. Most of those firm in that faith know that pleasure and sin are synonymous terms; that duty demands generally that one do what one would instinctively prefer not to do, and that one refrain from doing what one hungers and thirsts to do. But the hedonists are in charge of the colleges, of the government and of society, and the pursuit of pleasure is the prevailing paramount purpose in life. The voices of John Calvin and of Hardin Craig are harkened to, not in times of present plutocracy, but in times of adversity. Professor Hardin is speaking to those who do not hear, writing to those who do not see.

Man learns only through pain. When the present period of profligacy has been followed by the great depression that is now on the way, then in North Carolina one may say to another: Why was not Hardin listened to?

STETHOSCOPE—From P. 49

condition as a rule gives no radiological appearances. Dry pleurisy shows no evidence of its presence on the x-ray film.

Broadly speaking, in cardiac lesions, physical signs are ahead of x-ray examination, though x-rays can be used to demonstrate alterations in shape and size of the cardiac silhouette. Dry pericarditis is a purely clinical diagnosis, but in the diagnosis of pericardial effusion, x-ray examination, and particularly screening, is often of supreme importance.

It is suggested that in the investigation of chest disease, the present order of examination should be retained—the taking of the history, the physical examination, followed by the x-ray examination. It should be remembered and taught that in the diagnosis and treatment of chest conditions, the history is of supreme importance, radiology comes next, and the physical signs are frequently only an aid in the correct interpretation of the shadows present on the x-ray film.

In the diagnosis of diseases of the chest, it is necessary to use all the methods—history, physical examination, x-ray and laboratory procedures.

DENTISTRY

J. H. GUYON, D.D.S., *Editor*, Charlotte, N. C.

THE STATUS OF FLUORINE IN RELATION TO TOOTH DECAY

CONSERVATIVE dentists are slow to promise much in the way of prevention of tooth decay.

Interest in fluorinated drinking water as a preventive of tooth decay is now manifested more and more by physicians, dentists, biochemists and the public. Discussions in the lay press have popularized this new discovery and have aroused the belief in the public's mind that we are on the verge of finding a solution for the ravages of tooth decay.

Rabkin, who has studied this subject exhaustively for years, makes an honest presentation of the case in an article just off the press.¹

Mottled enamel of the front teeth reveals that in the early history of the patient fluorides were ingested, for which bones and teeth have a strong affinity. The lesions are from light yellow to deep brown and occur as patches midway or close to the tip of the tooth. The more severe type of fluorosed teeth are devoid of normal lustre and translucency; the enamel is not smooth, as in normal teeth. Such teeth are brittle, chip and suffer damage more easily than normal ones.

The fluorine content of drinking and cooking water has been found to vary considerably in the endemic regions. H. V. Smith lists seven wells in Arizona investigated for fluorine content.

The higher concentrations of fluorine found in the water is indicated by the degree of damage to the teeth and the generalized toxic effects. Aside from the discoloration or mottling of the enamel, water having high concentrations of fluorine when ingested during the period of tooth development has a permanently destructive effect on the teeth. Excessive intake of the chemical tried on experimental animals resulted in skeletal defects, stunted growth and bowing of the bones simulating rickets.

External treatment of the teeth with various concentrations of fluoride have been tried on human and other animals. A number of investigators have made topical applications of 1:100 sodium fluoride solution to one quadrant of the jaw while the other portion of the jaw was used as a control. The teeth to be treated were isolated with cotton rolls and kept dry. The rolls were kept in place for five minutes to allow for the applied solution to be absorbed into the enamel. Bibby relates the following: "This treatment was tried on 100 children—administering three times a year for two years. Of 80 patients thus treated for two years, 83 new cavities developed in the teeth treated. In the other (control) side of the mouth there were 124 new cavities."

Besides vegetables, fish and marine life is rated as possessing a high fluorine content. Those subsisting on such food are credited with carious-free teeth. The islanders of Tristan da Cunha, it has been related, shun the dentist and use toothache remedies to scent their bodies. They are identified as disease-free people with a very low mortality rate. Ostensibly their teeth's freedom from disease is but a part of healthfulness of all the parts of the body—although the few permanent teeth that Sognnaes brought with him after his visit to the island were found to be carious.

The best teeth have predominated among the flesh-eating Eskimos far from civilized settlements, early American Indians and their kin, the Mongoloids, Asiatic nomads, and the heavy black-bread eating primitive Russians.

Although it is possible that fluorides may be essential for human teeth, ample evidence exists that lower animals do not need supplements to maintain normal teeth.

At present there are two schools of thought concerning fluorine in dentistry: those who favor its application towards a solution of dental disease, and those who view fluorine as a source of destructiveness to the teeth. Perhaps fluorinated drinking water may benefit the child's teeth during the calcification period (up to eight years), but many factors must be taken into account. Important it is to note the incidence of perfect teeth in one member of a family, with its other members at the opposite extreme, all taking the same type of food and drinking water.

During the many years the writer has devoted to the study of human dentition he has encountered a large number of teeth with evidence of fluorosis. He found that such teeth are subject to the same process of degenerative changes as the non-fluorosed tooth. Indeed, there is little visible difference between the two types of pathology.

Important is the evidence presented by H. V. Smith on the value of fluorides for durable life of the teeth. "A survey made at St. David [a little community in Southern Arizona where fluorine and mottled enamel were abundant] showed that: 1) in the age group 12-14 years, 33% of the individuals had caries; 2) above age 21 years, all individuals now have, or have had, caries; 3) more than 70% of individuals over 24 years of age had lost all of their teeth and are now wearing plates."

Schour and Smith said, "However, we wish to add a word of caution to any plan to use fluorine compounds for the purpose of preventing dental caries. Mottled teeth do become carious and because of their structural weakness, once decay is started, it spreads rapidly with results that are often disastrous." Further, they warn, "any plan to build caries-resistance into teeth by addition of

1. Samuel Rabkin, D.D.S., in *Cincinnati Jl. of Med.*, Aug.

taining it during the healing period. In immobilizing fluorides to public water supplies as a public health procedure is extremely hazardous. The range between toxic and non-toxic levels of fluorine is of such small order as to make even the continuous use of fluorine dentrifices a probable danger."

Current advertisements in dental periodicals read, "Fluoride in tooth powder checks decay in most small tooth cavities;" "Traces of fluoride in the drinking water have largely prevented tooth decay in Deaf Smith County, Texas;" "A treatment to use in your office to reduce dental caries;" "Research has shown that topical application of fluoride solutions to the enamel of teeth of children will reduce the incidence of dental caries by 40%."

The writer comes to the pessimistic conclusion that, aside from the uncertainties of benefit being derived from the use of fluorine, the hazards involved far outweigh the most optimistic possibilities.

SURGERY

PRESENT-DAY CONCEPTS OF FRACTURE MANAGEMENT

THIS SORT of occurrence is not uncommon: A patient with a major fracture is admitted to the hospital by ambulance. Lifted from the ambulance, he is placed on a litter, wheeled to a ward, and put to bed. Then the doctor is called. Unthinkingly he orders an x-ray examination, believing it will save him time. The order is promptly carried out and the patient, beginning to recuperate from the jostling of the trip from the scene of accident, is again placed on a litter, wheeled to the x-ray department, lifted to the table, and turned in several directions by the technician so that adequate views may be obtained. Then again the patient is lifted to a cart, bounced through the corridors and finally skidded into bed by a couple of nurses. If complete disalignment of fragments has not occurred, or serious soft tissue damage increased, the possibility of shock has certainly been added: and yet this is common practice in many hospitals.¹

The instruction of nurses, orderlies and civilian aides in the proper handling of the patient with major fractures would improve this practice.

The doctor must curb his zeal of "setting" the fracture to a realization of the fact that he has a patient with a fracture. There is a tremendous difference between the husky laborer who may have been struck by a falling timber and the 85-year-old woman found lying at the foot of the cellar stairs. Early x-ray examinations are beneficial. However, if the obtaining of these films adds to shock, hemorrhage or soft tissue damage, it is far

better to wait for improvement in the condition of the patient. When a severely injured individual must be moved a considerable distance to a hospital the referring doctor could not do better than to disregard reduction but immobilize the fractured arm or leg to the body with a plaster spica.

A fracture should be reduced at the earliest possible time that is safe for the well-being of the patient. Muscle spasm and shortening begin the moment the continuity of bone is discontinued and increase often in a few days to a point where the shortening cannot be overcome by other than operative measures. Hence, in fractures involving long bones it is often well to consider the early application of some form of traction while the more general type of treatment is being carried out. If suspension-traction treatment is to be used, then the earlier it is applied the more quickly will reduction be attained.

If immediate manual reduction is to be used, such as to correct a wrist deformity, anesthesia is important. No matter how stoical the patient may be, involuntary muscle spasm augmented by the attendant pain cannot be overcome by simple pull and manipulation, in fact it is increased; therefore of the hematoma with novocaine has its adherents, of the haemtoma with novocaine has its adherents. I prefer a short general anesthesia. Except in the aged, intravenous pentothal is ideal, but a similar relaxation may be had with nitrous oxide or vine-there. For the introduction of pins or wires, local infiltration is usually sufficient to a depth including the periosteum.

Plaster properly applied gives splendid fixation. It must be carefully molded, padded over bony prominences and superficial nerves, and split if there is any possibility of postreduction swelling. In the majority of cases the joints, proximal and distal to the fracture, should be immobilized, at least in the first plaster application. The plaster will have to be changed if disuse atrophy causes a well fitting plaster to become loose.

Open reduction ordinarily should be reserved for those cases in which non-operative methods have been given trial. Interposition of soft tissue between fragments allow no other form of successful treatment, but the plating of a simple long bone fracture gives too many possibilities of complications to be advocated. The newer types of plates, screws, and nails have made such procedures far safer. It is good practice to augment the diet with an all inclusive vitamin substance, and the use of supplemental calcium and phosphorus, either as added milk or in tablet form, will aid toward bone formation.

The restoration of function is of equal importance to securing an adequate reduction and maintaining the forearm because of Colles' fracture, no

¹ D. C. Conzett, Dubuque, in *Iowa State Med. Soc.*, July.

apparatus, be it splint or plaster, should extend beyond the palmar crease. The patient should begin immediately the use of the fingers and should have early elimination of the sling because circulation will be stimulated by the use of the arm. Daily swinging the arm overhead and frequent bending at the elbow will keep these parts vitalized and lessen disuse atrophy. These instructions are most important in the older group of patients who, because of early pain, are loath to want to move the part.

Massage is a lazy person's means of exercise and usually some form of active motion is to be preferred. Heat is analgesic and a circulatory stimulant. The use of weights and pulleys has not had the usage that its value deserves. By the construction at home of simple devices which the patient can use, he may improve movement much more rapidly than awaiting his daily or semiweekly visit to the doctor's office for a quick treatment and then spend the interim in idleness.

With a goniometer the doctor can measure the progressive improvement. The gain of an inch or two often sends a patient home knowing that his improvement is progressing.

All this is pertinent and important. It may well be doubted if there is a hospital in the U. S. not amenable to these charges. It behooves all of them to heed.

RAPID CITRATED BLOOD TRANSFUSIONS

MASSIVE blood transfusions are necessary, if surgery is indicated in patients who have suffered massive hemorrhage. Every effort must be made to build up a failing blood pressure within reasonable limits of normal before operative procedure is attempted. At the same time pure oxygen should be administered by means of the oxygen mask. This high-oxygen tension will force the normal fraction of a percentage of oxygen in the blood plasma to two volumes per cent which is a small amount ordinarily but important, when the oxygen-carrying power of the blood is reduced.

Dodds¹ discusses means of doing such transfusions:

It may require up to 2000 or 3000 c.c. of blood to prepare the patient for operation and even then he may slip back into shock, especially during operation. The color is a poor index of the degree of shock or anoxemia because cyanosis does not appear in severe anemia. Tilting the patient to the head-down position is of value in that it relieves cerebral anemia and increases the stroke output of the heart.

A six- or eight-inch length of ordinary intravenous tubing is attached on one end to a three-way stop cock and on the other end to the hub of

a size 16 or 18 intravenous needle. When everything is going well connect the three-way stop cock to the needle in place in a vein of the patient and the intravenous adapter to the hub at the other end of the apparatus.

If it becomes necessary to increase the flow of blood to the patient, a 20 c.c. syringe is inserted into the third opening of the stop cock, and the syringe is filled and blood is injected rapidly to the patient by proper manipulation of the lever on the three-way stop cock. A number of 20 c.c. syringes should be available because even with citrated blood they become sticky.

It may be necessary to inject only 100 c.c. of blood to relieve the blood pressure drop, but it also may be necessary to inject 500 c.c. or more, this depending on the response of the blood pressure and pulse.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

THE TREATMENT OF ANEMIA IN GENERAL PRACTICE

THERE IS much confusion about the anemias, their classification and treatment. Beard¹ says a good deal toward bringing order out of this confusion.

There is practically no iron excreted from the body so there are only two essential causes of anemia from iron deficiency—blood loss and a deficient iron intake in youngsters whose growth causes an expanding need for iron. In males, iron deficiency anemia always means blood loss; and in youngsters, especially from six months on, it may mean inadequate iron intake.

A deficiency of iron results in a reduction in the red count, but the peripheral blood shows a normochromic or slightly microcytic, hypochromic anemia. Platelets and leukocytes are unchanged.

The use of the ferrous iron, either sulfate or gluconate, has become almost universal. These give more available iron grain for grain than any other form. The question of the addition of liver extract, Vitamin B, or amino acids to oral iron is an open one. My impression is that they have some benefit. Since most of our therapeutic iron contains some copper as impurity, the addition of this element is usually not necessary. In youngsters, however, whose response to iron is slow, the addition of copper may be necessary. Thyroid substance in small amounts may correct some of these anemias.

If gastric HCl is low little of our iron may be absorbed. Gastric analysis should be done on patients who do not respond to iron therapy. If HCl is deficient its addition to the iron therapy is fre-

¹ J. M. F. Beard, Louisville, Ky., in *Jl. Indiana State Med. Assn.*, July.

quently followed by a prompt and gratifying therapeutic result.

Anemias resulting from a deficiency of red cell maturation factor may result from a lack of intrinsic factor (addisonian anemia); extrinsic factor in dietary deficiency or dietary faddism; also from disturbance in absorption of erythrocyte maturation factor, and from chronic diarrheas, such as in sprue; occasionally from chronic liver disease. Such deficiency results in a peripheral blood that is macrocytic and hyperchromic, and shows marked anisocytosis and poikilocytosis. The platelets and leukocytes are reduced, and the neutrophils are right shifted.

One unit of erythrocyte maturation factor per day will maintain a normal equilibrium. For most cases the parenteral route is to be preferred. My routine is to give the patient 30 units for 30 days, plus 200-300 units for storage, divided in smaller doses such as 15 daily units for 10 days, the 15 units every day for 20 days. If a maintenance dose is indicated as in addisonian anemia after return to normal of the peripheral blood, I give either 15 units every two weeks or 30 units once a month. This schedule has proved entirely satisfactory.

Hypoplastic anemias are the result of toxic effects on the hemopoietic system. Some of these are known, such as those caused by benzol, arsenic and radiation. Others may be sulfonamides, renal disease, or infections. This type of anemia results from a direct hypoplasia of the blood-forming mechanisms. Peripheral blood shows a reduction in erythrocytes, is normocytic and normochromic. In severe cases there may be some microcytosis and anisocytosis and poikilocytosis. In the milder cases there is usually also an increase in monocytes and plasma cells. In milder cases good results by the use of crude liver extract, one c.c. two or three times a week. The whole Vitamin B complex by mouth is also at times of value. In the severe cases I use the above routine plus periodic transfusions. In most cases it is irreversible. Splenectomy occasionally may be of help.

There is a wide range of hemolytic anemias, congenital in origin. Others may be the result of sensitization to drugs as in the hemolytic anemia, occasionally following sulfonamide therapy. The erythrocytes are reduced and are normochromic.

Transfusions in erythroblastosis and in those due to chemical sensitivity may be quickly curative. Hypersplenism is a factor, transfusions may increase the hemolysis. Human plasma in large amounts may reverse the process and a satisfactory return to equilibrium may ensue. If hypersplenism is present and the case does not respond to the transfusion or plasma splenectomy early splenectomy will cure many of these cases. Liver, iron, and other factors are usually not indicated.

The cause of myelophthisic anemia is an invasive growth of the bone marrow brought about by tuberculosis or other chronic infections; by neoplasms, such as metastatic carcinoma; by bone disease, such as multiple myeloma; or by blood disorders, such as the leukemias.

The normochromic, normocytic anemia usually because the bone marrow reflects a mechanical rather than a physiological disturbance. The platelets are usually reduced or absent. Reticulocytes are usually absent or low.

The bone marrow is usually diagnostic, showing large numbers of the invading cell. The therapy must be aimed at the disease causing the bone marrow invasion, and most of these are incurable.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

STREPTOMYCIN IN SOME URINARY-TRACT INFECTIONS

THE SIGNIFICANCE of this study¹ lies in the fact that all the bacterial strains could be made resistant to a concentration of 1,000 units of streptomycin per c.c. of medium. There are other reports that bacteria may acquire resistance to streptomycin. It appears evident that if an infection of the urinary tract is to be treated with streptomycin, the initial doses should be high in order to control the infection as rapidly as possible. Otherwise there exists the possibility that the bacteria causing the infection may develop increasing resistance to the antibiotic substance.

It also should be remembered that in the treatment of infections of the urinary tract with streptomycin an attempt should be made to maintain the urine at as alkaline a reaction as possible since the activity of streptomycin is greatly increased by a higher pH of the medium.

In a follow-up investigation to determine whether the resistant microbes would again become susceptible to streptomycin if cultivated in the absence of this antibiotic, the bacterial strains which were resistant to 1,000 units of streptomycin per c.c. were transferred daily in nutrient broth. After 29 daily transfers it was found that the bacteria lost none of their resistance.

The clinical deduction to be drawn is that infection caused by bacteria which have developed resistance to streptomycin is unlikely to respond to a second treatment after the lapse of a few weeks.

As we review our experience with streptomycin in the treatment of renal tuberculosis, it is our impression that the drug exerts at least a temporary beneficial effect in a reasonable number of

1. Catharine Q. Knop, in *Proc. Mayo Clinic*, July 24th.

2. E. N. Cook et al., in *Proc. Mayo Clinic*, July 24th.

cases. We know that some of our patients have been treated for too short a period and with insufficient amounts of streptomycin—due in part to difficulty in obtaining the drug—to permit accurate evaluation of results. We have been able to alleviate the vesical symptoms of some patients and to decrease the degree of pyuria. We have decreased the incidence of positive results of staining for *Mycobacterium tuberculosis* in the urine, and improved the cystoscopic appearance of the bladder. The genito-urinary tuberculosis of two patients apparently was arrested.

The use of streptomycin is not a substitute for the surgical treatment of most patients who have tuberculosis of the urinary tract. We are sufficiently encouraged by the effects of streptomycin to continue to use it. Its eventual position in the treatment of genito-urinary tuberculosis remains undecided.

THERAPEUTICS

J. F. NASH, M.D., Editor, St. Pauls, N. C.

THE TONSIL STUMP AND ITS REMOVAL

MANY, many doctors have wondered how many patients who have submitted (most of them by proxy) to appendectomy and tonsillectomy have subsequently come to the operating table (and how many to the undertaker's table) because of infections in the stump.

Here's something which will interest the thoughtful.¹

Tonsil operations are the most frequent surgical procedures done in the United States; some one-third of the children at the age of 16 years have had a tonsillectomy. Many of these operations are incomplete and tonsil stumps remain. These stumps may serve as foci of infection, and thus are a menace to the health of the individual. The lingual tonsil may hypertrophy and grow up into the tonsil fossae.

Campbell reports that 77.3% of the patients who had had tonsils removed had tonsillar remnants in the cases he examined; that in those children having tonsillectomies before the age of four, 100% have tonsil tissue remaining.

Kaiser says 381 out of 1,000 tonsillectomized children had tags; Selkirk and Mitchell's incidence is 18 out of 130 cases; Rhoads and Dick 290 of 403 of the nurses at the Presbyterian Hospital, Chicago.

According to Spath's records, at least three fourths of the patients who have had tonsillectomies have infected stumps and lingual tonsils. Thus, instead of the foci of infection in the throat being eliminated many tonsillectomized patients are

¹ Carl B. Spath, Sr. & Jr., Indianapolis, in *Indiana State Jl. of Med.*, Aug.

still absorbing toxins and are systemically much worse than prior to their operations.

The majority of people with infected tonsil stumps have few complaints referable to their throats. The infection causes symptoms in the entire body. The patients complain of feeling tired, of loss of weight, joint pains, shooting pains down the arms and legs, and they frequently have bouts of fever. Others may have skin affections and eczemas; some have chronic sinusitis or chronic middle-ear disease.

Repeated attacks of sore throat and enlargement of the cervical glands are the usual complaints of children; almost any systemic disease could be caused by the infected tonsil stumps.

The diagnosis is made by careful examination of the throat—by direct vision and by use of a mirror. In cases which are usually considered clean tonsillectomies, a piece of tonsil tissue may be seen at the lower tonsillar pole, and it often merges into a hypertrophied and infected lingual tonsil. The lingual tonsil tends to hypertrophy after removal of the faucial tonsils. In some cases tonsil tissue is hidden by scars although in such cases a fullness is seen at the inferior pole.

Important signs are tenderness in the submaxillary region, over the tonsil stump and along the course of the jugular vein. These signs are always found in cases of tonsil-stump infections and are suggestive as a cause of a chronic, latent phlebitis of the jugular veins.

Complete examination of the teeth and gums, including x-ray and tests for devitalized teeth, is in order. In case infection is found here, results are better if infections of the teeth and gums are removed first.

Unless contraindicated, we use general anesthesia for all of our tonsillectomies because of lessened shock and complete relaxation enabling the operator to perform better deep-throat surgery. We prefer to have the reflexes return as soon as possible after surgery and therefore prescribe no preoperative medication.

The tonsil stump is grasped by heavy, curved forceps; the assistant holding the tongue so as to put tension on the anterior pillar. With a long-handled knife with a No. 12 curved blade, dissection is started at the junction of the anterior pillar and the tongue and carried upward until the superior portion of the tissue is freed from the tonsillar fossa, the blade is turned downward and the incision carried down to the point where the posterior pillar merges into the pharynx; then the tissue is loosened from the pharyngeal muscle with the Carney-Fisher knife. By gently stroking downward the adhesions and muscle fibers are freed from the tonsil tissue. Gentle traction is always maintained on the stump while the dissection is

carried on.

We frequently expose the lingual branch of the glossopharyngeal nerve as it travels over onto the tongue. Care must be taken not to injure the nerve, or there may be a loss of taste in the posterior third of the tongue.

After the stump is completely freed from the muscle tissue it may be removed by a snare. Any bleeding vessels are grasped by forceps and ligated.

PROCTOLOGY

RUSSELL BUXTON, M.D., F.A.C.S., *Editor*

CONDYLOMATA ACUMINATA

CONDYLOMATA ACUMINATA are growths about the margin of the anus and are often called venereal warts. Except for condyloma latum, these are not venereal diseases. These wart-like growths begin as a small group of pinkish papillae occurring on one side of the anus or the other. They grow rapidly and coalesce to form a large cauliflower-like tumor attached to the skin by many pedicles. Sometimes they become quite large. There is usually itching and irritation about the growth. The diagnosis is made by ordinary means of examination. They can be mistaken for a fungating type of epithelioma which, of course, can be ruled out by microscopic examination of a portion of the growth. Condylomata acuminata result ordinarily from an irritating discharge or chafing and for this reason are most often seen in women. They occur with hemorrhoids and often after pinworm infestation. It is noteworthy that these venereal warts do not occur in persons who are scrupulously clean.

The treatment of condylomata acuminata is removal of the etiological factor, whether it be vaginal discharge, hemorrhoids or pinworms. Small areas may be removed by cauterization with phenol or silver nitrate. Large tumors may be removed under anesthesia by desiccation by the electric cautery, or cauterization with the actual cautery. There is no recurrence if the patient observes the usual rules of personal cleanliness.

HISTORIC MEDICINE

SOME SIDE-LIGHTS ON MEDICAL AND SOCIAL PRACTICES IN INDIA

ACCORDING to the testimony of one of her doctors¹ certain medical and social practices prevalent in "backward" India bear a strong resemblance to practices to be found in these "progressive" United States.

In the latest stage of disease some relatives give their advice to take the patient to a specialist in a

big city, who charges his fat fee for telling bad prognosis, for which no special knowledge is required. This is done to keep up face, the longer the list of doctors consulted the more affection with the patient is indicated.

Then after death ceremonies come which cost much more than the amount spent on the treatment of the patient during his life. No effort is made in the beginning to get proper diagnosis and treatment of the case. They say that they follow the advice, "stitch in time saves nine," but they start with wrong needle and thread. Money is wasted in wrong direction and on superstitions. Thus they lose both patient and money with loss to the country financially and in man-power, but all this is done to keep up face to society. If anybody objects to meaningless ceremonies, he is considered a cursed fool.

Now another source of money waste which is bringing no useful result to the country is the waste under the beautiful name charity. The rich give charity for the sake of name and fame and the poor part with their meagre belongings in the hope of getting in turn longevity and plenty—if not in this world, at least in the next world. Thus able-bodied idlers are lavishly fed at the expense of half-naked starving millions. Here we are caring far too much for the soul and are altogether neglecting the body in which the soul lives. A soul in the ailing body cannot be at peace. We have far too many spiritual hospitals and very, very few hospitals for the treatment of body ailments.

Every other day is a ceremonial day and we have to spend something on it. A beggar within a few hours is given three or four times what a hard-working coolie earns by a hard day's labour.

Attentive reading of this abstract will give one some idea of the difficulties experienced by the British in conducting the affairs of British India, and should cause one to hesitate to be captiously critical.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

A CLASSIFICATION OF THE DIFFERENT TYPES OF DIABETES MELLITUS

ALL OF US have noted great differences in the behavior of cases of diabetes under care for a long time. Greene¹ gives us an excellent rule and guide.

The usual type consists of diabetes mellitus of unknown etiology, which is considered by most authors to have a decrease in the production of insulin by the pancreas. In the unstable variety the blood sugar will rise above the renal threshold without relation to the ingestion of food and the

1. Capt. B. Singh, Burmawalla, in *Indian Med. Rec.*, Mar.

I. J. A. Greene, Houston, in *Arizona Med.*, May.

hyperglycemia and glycosuria occur nearly as frequently during the night as during the day; usually in young persons. In the stable variety the hyperglycemia and glycosuria occur in relation to the ingestion of food and do not appear at night if the diabetes is controlled during the day.

The arteriosclerotic type is mild and the patients never develop acidosis, nor is the glycosuria excessive; it develops late in life. The complications in these patients are due to inadequate circulation of blood to the myocardium, cerebrum, kidneys or over the extremities.

In the obesity type the individual has hyperglycemia and glycosuria, but does not develop acidosis. The hyperglycemia and glycosuria disappear when the weight is brought to within normal limits.

The endocrine type includes those persons with diabetes mellitus secondary to tumors of the pituitary or adrenal glands.

The fifth type includes those in which demonstrable lesions of the pancreatic parenchyma are present probably should be considered under the first type.

The sixth type may or may not be different from the first type, except for the addition of the liver disease, but the therapy differs in the two groups.

The diagnosis of the first type is made by establishing the presence of diabetes mellitus and exclusion of other types.

The diagnosis of the arteriosclerotic type is made in an older person with a mild diabetes mellitus and with arteriosclerosis. An older person may develop the usual type of diabetes and acidosis may occur.

The obesity type diagnosis is established only if the diabetes disappears after the body weight of the patient is brought to normal. Newburgh found 35 per cent of the cases of diabetes coming into the University Hospital at Ann Arbor to be of this type.

Diabetes secondary to tumors of the pituitary or adrenal glands is established if the diabetes subsides following removal of the tumor or recession of the tumor following the röntgenotherapy.

In the fifth type there is a history of chronic biliary tract disease, or of large bulky and foul stools, or attacks of pain in the epigastrium, radiating through to the back in the upper lumbar and lower thoracic regions: which are indications for studies of the pancreatic enzymes in the stools and aspirations from the duodenum through duodenal tubes may be of help.

The diagnosis of the sixth type is made only when there are other manifestations of hepatic disease in a person with diabetes mellitus.

In the most severe cases of the usual type insulin therapy is generally accepted, but the types of and doses of insulin are still the subjects of

arguments. In the unstable or juvenile variety of case injections of insulin are required more frequently or insulin preparations which are absorbed more slowly are employed. In the stable variety less controversy has arisen in regard to the insulin to be prescribed, but the opinion is not unanimous. Education of the patient regarding his or her diabetes is generally recognized and agreed upon and the best results are obtained in clinics and in practices with good educational programs for the patients.

In more recent years patients have been observed with arteriosclerotic heart disease and diabetes mellitus who received the usual therapy for their diabetes mellitus and the cardiac condition, either did not improve or became worse and did improve when the diabetes became slightly or moderately out of control. The idea has become prevalent that these patients should receive more carbohydrate in their diet and that the blood sugar level should be permitted to remain at a higher level than in the average case. It has been my practice for several years to control the diabetes in the usual fashion in these cases and as soon as the urine has become free of sugar to increase the diet by 50 to 100 grams of carbohydrate. In rare instances it will be necessary to add, or to increase the dose of, insulin. The urine is permitted to show a trace of sugar in the mid-morning specimens, but is kept free of sugar for the remainder of the 24 hours. It is just as important to maintain this regimen in patients with cerebral or peripheral arteriosclerosis as it is in patients with arteriosclerotic heart disease.

Cases of diabetes mellitus have been classified into six types.

1. Regular or usual type.
 - A. Unstable or juvenile variety
 - B. Stable or adult variety
2. Arteriosclerotic type
 - A. Cerebral arteriosclerosis
 - B. Coronary arteriosclerosis
 - C. Renal arteriosclerosis
 - D. Peripheral arteriosclerosis
 - E. Generalized arteriosclerosis
3. Obesity type
4. Endocrine type
 - A. Pituitary variety
 - B. Adrenal variety
5. Parenchymal pancreatic disease
6. Parenchymal hepatic disease.

Vision is the vital union of Art and Science; an individual result of the two, it is more excellent than either; it is the body animated by the soul; the will, knowing what to do and how to do it; the members capable of fulfilling its bidding; the heart nourishing and warming the whole; the brain stimulating and quickening the entire organism.—Dr. John Brown, of Edinburgh.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

WHO SHOULD ATTEND THE HOSPITAL MEETINGS?

THE WRITER is convinced that little thought has been given to this important question.

Over a period of twenty-one years, the writer has missed very few of his own state and national hospital meetings, and has attended meetings of other states. During this time, he has seen the attendance of the hospital meetings remarkably increase. There are two types of individuals attending hospital meetings—one made up of those who have no responsibility, financial or institutional, and who go for the purpose of having a grand and glorious time frolicing; the other of those who have great responsibility and who go with the purpose of learning from others what their burdens are and how they handle them.

Those of the first group are helped because they forget the job at home, form new friendships, and probably feel freer away from home if they are a little indiscreet. If they get into the habit of going there are those who will eventually be transferred into the second group, after having had enough frolicing.

For the second group a hospital meeting has very little rest or relaxation. However, without this group of individuals, hospitals would be in a bad way at home, and it is expedient for the hospitals to see to it that this type of employee attends hospital meetings. All too often the heavy burdens at home make persons with these responsibilities feel that they can't spare the time to attend the meetings. Then, directors and trustees, in some instances, do not bother to urge the attendance of the heads of the departments in the hospital.

It has suggested itself a number of times to people who are most interested in hospital administration that hospital meetings of recent years have tended to simulate meetings of labor organizations, more time being spent in discussing hours, salaries and vacations than in solving the many problems of the hospital administrators. Hospital meetings should devote their time and talents to promoting better hospitals with better medical and surgical care of patients. There is ample need for learning how this service may be rendered by the present-day staff of physicians and nurses. Any administrator will admit that his difficulties are growing more daily in these two departments. The deplorable situation produced by the scarcity and sometimes inefficiency of nurses is common knowledge.

The matter of the medical staff is a large concern. Every doctor, even the more recent graduate, feels that he should be given the privilege to per-

form all types of operations and treatment of all types of cases in the hospitals. The present-day requirements for the pre-medical, the medical, and the post-medical degree training is far in excess of what could be called common horse sense, and the expense is almost prohibitive. Doctors, at best, are very hard to persuade to conform to a set of prescribed rules and regulations. This is made doubly hard because the administrators themselves usually are not doctors, and the doctors think that the administrators cannot understand their problems sufficiently to dictate rules and regulations for them to abide by.

Many of the most difficult problems that the hospital administrators have to contend with could be eliminated and much good could be derived if standards could be set up to govern the various departments, and especially these two. It is unlikely that the administrator of any hospital would meet much difficulty in augurating a new set of rules, if it could be stated that this method of government is being used by the great majority of similar hospitals.

Who, then, should attend hospitals meetings is not a hard question to answer. Hospital trustees and directors should see to it that their top employees attend, and they should require a full report from these employees as to what they learned at these meetings that would increase the efficiency of their hospital. It is not now too late to start planning to send your superintendents and administrators to as many of the hospital meetings as is practical and possible this fall.

THE EFFECT OF COFFEEINE ON GASTRIC SECRETION (V. H. Musick *et al.*, Oklahoma City, in *Sou. Med. Jl.*, Aug. 9)

Gastric secretion of hydrochloric acid in the normal person is stimulated when caffeine is placed in contact with the mucous membrane of the stomach. Gastric stimulation by caffeine results in an excessive prolonged secretory response in patients with duodenal or gastric ulcer.

In individuals with peptic ulcer, the degree of gastric hypersecretion following stimulation by caffeine indicates the activity of the process and may be of value in predicting imminent hemorrhage or perforation.

Caffeine may be an important implement in the hands of investigators in solving the etiology of peptic ulcer.

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SOME ASPECTS OF THE DIAGNOSIS AND TREATMENT OF PROLAPSED INTERVERTEBRAL DISCS

It appears that the furore for operating on aching backs has abated considerably in this country. Still there remains the problem of arriving at a correct decision as to which pains are due to lesions of the discs, and relievable by their removal.

Trumble¹ presents the conservative side of the debate, and bases his conclusions on his own experiences, as well as sound reasoning.

The chief symptoms of disorders of the lowest two intervertebral discs are backache and sciatica. The name of the pathological conditions which have been supposed to cause either backache or sciatica is Legion. It is a matter of importance, therefore, to know in what proportion of patients complaining of backache or sciatica, or both, the lesion responsible for the symptoms is in an intervertebral disc.

It has been held by some that typical sciatica, a malady of acute or subacute onset characterized by pain in the area of sciatic distribution with tenderness of nerve and muscles, and sometimes loss of sensation and weakness of muscles and diminution or loss of the ankle jerk, is due to a true inflammation of the sciatic nerve or the roots entering into its formation. There is, however, no doubt that patients with prolapsed intervertebral discs may present this picture in detail and that successful removal of the disc will result in the disappearance of the signs and symptoms. It is, of course, not possible as a rule to demonstrate conclusively that the nerve is inflamed.

"Fibrositis" has been supposed to cause sciatica. Here again proof is difficult to obtain and some observers deny the existence of such a condition. Elliott claims to have shown by electrical methods that the tender nodules which are sometimes found in muscles are due to localized spasm of the muscle fibres secondary to irritation of the motor nerve supply the muscle.

Hurst held that though, as a rule, there was some organic cause responsible for sciatic pain in first place, continuance of the pain was due to psychical causes, curable by suggestion.

Dandy held 95% of all cases of sciatica to be caused by disorders of the lowest lumbar discs, that in one-third of the cases there is prolapse of a *nucleus pulposus*, whilst in the remaining two-thirds what he called a "concealed disc" is present. Dandy also claimed that practically all backaches are caused by disorders of the lumbar disc; the 5% of cases of sciatica not caused by disc disorders being due to tumours of the *cauda equina*, spondylolisthesis *et cetera*. It will be seen¹ H. C. Trumble, Melbourne, in *The Australian & New Zealand Jl. of Surg.*, Jan.

that if Dandy's views are accepted there is practically no diagnostic problem.

If a definite prolapse of the *nucleus pulposus* is found, an incision is made into the lump, loose fragments are extricated, then radical removal of the *nucleus pulposus* is effected. If a bulging of the disc is found without any definite prolapse of the *nucleus pulposus*, the *nucleus pulposus* and the accessible posterior part of the *annulus fibrosus* should be removed as thoroughly as possible. It is sometimes difficult to decide whether the bulge of a disc is within normal limits or not.

If no definite prolapse or abnormal bulging of a disc is found, what is to be done? According to Dandy 66% of cases of sciatica are due to what he called "concealed discs," and when such a condition is present there is abnormal mobility of the vertebral spines; and the disc, when exposed, is found to be adherent to the adjacent nerve, and that it fluctuates when tested with a probe; further, after incision of the *annulus fibrosus*, a probe passed into the *nucleus pulposus* encounters there little resistance, and, lastly, the nucleus is found to be composed of a "brown, mushy, necrotic material." Trumble has not been able to satisfy himself of the validity of these signs. As regards mobility of the spines. Trumble has found that in the normal person there is a range of movement of from three-eighths to one-half of an inch when the spine is half-way between full flexion and full extension. The movement is practically abolished in full flexion and full extension of the spine. He has never noticed a greater range of movement in patients with proven disorders of discs. One function of an intervertebral disc is to permit of and promote smooth and easy movement of one vertebra upon another, through a range which is limited chiefly by the restraining action of the interspinous and supraspinous ligaments. It is scarcely to be supposed that the movement in question would be made more easily when the disc had been damaged, and it is difficult to see how the range of movement would be increased.

Trumble has never found a nerve to be adherent to a disc, though it is quite common to find a nerve closely applied to a bulging disc. Normal discs may give a sense of fluctuation when the spine is midway between full extension and full flexion. The fibres of the *annulus fibrosus* are relaxed in this position and bulge somewhat. In full flexion of the spine the fibres become tense, the *annulus* flattens and "fluctuation" is not obtained. In full extension the *annulus* bulges more strongly, being squeezed out by the approximation of the posterior margins of the adjacent centra. Again there is no sense of fluctuation. The normal *nucleus pulposus* offers little resistance to the passage of a probe, and it would be very difficult to decide

whether in any case the resistance is less than normal. He has never found at operation any *nucleus pulposus* which could be described as being composed of "brown, mushy, necrotic material." On many occasions, after removing large, free, unattached fragments of prolapsed *nucleus pulposus* microscopic examination has shown, in all cases, the material to be composed of fibro-cartilage with more or less healthy cells. It is wrong, therefore, to describe these fragments as sequestra.

Trumble is not prepared as yet to accept Dandy's conception of "concealed discs," and if he cannot find at operation some definite bulging of the disc he does not incise the *annulus fibrosus*. Trumble is interesting to note that in a recent paper Dandy states that he is not sure that "concealed discs" are abnormal.

HOW MUCH WILL HIS PATIENTS SUBMIT TO MODERN PSYCHIATRIC TREATMENT AT THE HANDS OF THE FAMILY DOCTOR?

DOCTOR JAMES KING HALL's criticism, in this issue, of Professor Hardin Craig's crying in the wilderness is a great criticism of a greater dissertation. I pause to remind that criticism is not condemnation, but honest, intelligent, evaluation. It is easy to understand how it came to pass that the word "criticism" is applied to non-flattering expression of opinion only. The simple and obvious reason is: So small, almost infinitesimal, a percentage of new books, poems, theatrical productions, architectural plans, political projects or any *oeuvres*, is found, by honest, intelligent evaluation, to be worthy of praise. There it is, as plain as a pikestaff.

I am constrained to undertake the application of criticism to the popular, not to say smug, condemnation of the general practitioner for, as it is alleged, his failure to realize that a large fraction of his patient's symptoms have their origin elsewhere than in the physical organism.

Here follows the case report:

The Kentucky president—be it noted he is not a general practitioner—assumes that, had any doctor consulted anywhere along the line to the Mayo Clinic "taken the time" to treat this patient as a "neurotic," all would have been well. I demur to the indictment.

A well nourished successful merchant, aged 42, in bed two weeks with influenza in January, 1940. Stiffness of the nose and headache followed. March 15th, an otolaryngologist made a diagnosis of bilateral ethmoiditis. After a few treatments the patient returned to his store. July 2nd he consulted me, complaining of headache, dizziness, burning in top of head, inability to concentrate. He stated that he had a recurrence of his sinusitis. A painstaking examination, including an x-ray, found all

sinuses negative. He seemed worried, fearful of a brain lesion.

Now we followed the line of least resistance and treated our patient according to his diagnosis. This further convinced him that he had sinusitis. The patient, discouraged, sold his store and retired from business. An internist found everything negative except tenderness over the appendix and a surgeon removed this organ.

In the summer of 1941 a chiropractor found his symptoms due to a slipped vertebra. After several adjustments the patient returned to work as a salesman in a hardware store. After six months he relapsed, now suffering from a burning sensation in top of head, vertigo, tightness in chest and weakness. He was advised by a doctor to take a prolonged rest in Florida. Told by a Florida physician that he had angina pectoris, he returned home to await the end with his family. Within three months he lost 30 pounds. He became morose and melancholic, showing suicidal tendencies. He thought and talked only of his illness.

At the persuasion of another physician and his family, to make one final effort to live, he had a thorough examination at the Mayo Clinic where his ailment was diagnosed as anxiety neurosis. After one month at the clinic under the care of a psychiatrist, he returned home much improved, with a new outlook on life. He rapidly gained weight and strength, now operates his own grocery and tells me that he never felt better in his life.

This is not a rare and unusual case history. It is rather typical. All physicians see such cases almost daily.

Physicians who examined this patient would have concurred that he had an emotional upset; that he was a "neurotic." None had the inclination or took time to treat him accordingly.

One must recognize psychopathology as well as tissue pathology. Most physicians are well trained to cope with physical pain and distress, but few with emotional pain and distress.

It is estimated by Army surgeons that one-half of the beds in military hospitals are occupied by patients with psychiatric disorders.

They should not be brushed aside hastily with shrinking of the turbinates and inflation of middle ears, with a diagnosis of nervous breakdown and a prescription for bromides, to ultimately fall into the hands of a chiropractor or another irregular practitioner.

More time should be spent with those mentally sick than with those physically sick.

Last year's president of the Kentucky Medical Association devoted his presidential address to making a case report and moralizing thereon. The report was of a case which was finally diagnosed

and treated as anxiety neurosis.

What, think you, would be the result if you were to tell the next dozen of your patients that you regard as "neurotic" that no medicine is needed, indeed that all treatment other than mental is contraindicated (which I gather is sound psychiatric doctrine); and that each of them must come in every day or every week for a one- to three-hours talk with the doctor, which talk is supposed in some marvelous way to be the all-in-all, the sure-fire thing for such ailments?

Somehow it happens that none of the marvels brought out in my two-score years in medicine have achieved the wonders for my patients, whether exhibited by myself or some other doctor, achieved in the hands of others. I do not know why this is. Possibly it is because I am lacking in that kind of faith which is the ability to believe what one knows is not true. On the other hand, it may be because I am lacking in gullibility.

Patients and their families will stand for a lot, late in their illnesses and from a specialist in some distant city, that they would not for an instant have stood for early and at the hands of their home doctors.

Besides, it's difficult or impossible to get from any institution or psychiatrist with which I am familiar a statistical report on the permanence of cure of any kind of neurosis or psychosis in their hands.

INAPPROPRIATE TREATMENT OF MOLES PREDISPOSES TO MELANOTIC MALIGNANCIES

THE RAPIDITY of growth of malignant melanoma and the helplessness of our efforts to control it are familiar. Within the past few months Putzki and Scully¹ have had three cases of malignant melanoma, following the electrodesiccation of moles believed to be innocent growths. These authors reémphasize the danger and tragic consequences which may follow the destruction of moles by heat, electrodesiccation, inadequate cauterization, and the use of chemicals, caustics, carbon dioxide snow, pastes, acids and the like.

The following points are emphasized:

In a high percentage of cases the pigmented mole precedes the development of malignant melanoma. These moles are more frequently found on the head and feet.

Moles showing activity such as increased pigmentation, vascularity, bleeding, ulceration and growth should be radically excised. Once metastasis has occurred the prognosis is grave, regardless of treatment.

1. P. S. Putzki & J. H. Scully, Washington, in *Med. Ann. D. C.*, July.

NEWS

TWENTY-FIFTH ANNIVERSARY OF THE DISCOVERY OF INSULIN

THE 25TH ANNIVERSARY of the discovery of insulin will be observed with a program in Convocation Hall, at the University of Toronto, on September 16th. Among the celebrities in the field of medicine to be present to honor the occasion are R. D. Lawrence, physician-in-charge, Diabetic Clinic, Kings College Hospital, London; H. C. Hagedorn, of Gentofte, Denmark; Bernardo A. Houssay, Research Institute of Experimental Biology and Medicine, Buenos Aires, Argentina; and Elliott P. Joslin, Harvard Medical School, Boston, Mass., U. S. A. This observation will be followed by the regular annual meeting of the American Diabetes Association.

On September 23d Eli Lilly and Company will sponsor an International diabetes clinic to be held at the Indiana University Medical Center in Herty Hall of the State Board of Health Building, Indianapolis, Indiana. International importance will be given to this meeting by the presence of Professor Charles H. Best, Toronto, Canada, co-discoverer with Banting, of Insulin; Professor Houssay, Dr. Lawrence and Dr. Hagedorn. These authorities will discuss various phases of diabetic care.

Tentative Program

INTERNATIONAL DIABETES CLINIC

Herty Hall, of the Indiana State Board of Health Building, Indiana University Medical Center, Indianapolis, September 23d, 1946.

2:00 p. m.—Ten-minute addresses

1. Dr. J. O. Ritchey, Professor of Medicine, Indiana University School of Medicine: Address of Welcome.
2. Dr. Franklin B. Peck, Lilly Research Laboratories, Introductions: Dr. Moses Barron, Minneapolis; Dr. W. D. Sansum, Santa Barbara; Dr. G. H. A. Clowes, Research Director Emeritus, Lilly Research Laboratories.
3. Dr. Joseph H. Barach, Falk Clinic, Pittsburgh, Retiring President of A. D.: "Twenty-five Years of Insulin."
4. Professor Charles H. Best, Toronto, Canada: "The Discovery of Insulin."
5. Dr. John R. Williams, University of Rochester: "Sir Frederick Banting."
6. Professor Bernardo A. Houssay, Buenos Aires: "Etiology of Diabetes."
7. Dr. R. D. Lawrence, King's College Hospital, London: "Diabetes in England."
8. Professor Carl Cori, Washington University, St. Louis: "The Action of Insulin."
9. Dr. H. C. Hagedorn, Gentofte, Denmark: "Modification of Insulin."
10. Dr. Elliott J. Joslin, Boston: "Problems of the Future."

NEWLY APPOINTED VETERANS ADMINISTRATION CONSULTANTS

Fifteen physicians and surgeons have just been appointed consultants to the Richmond Branch Medical Service of the Veterans Administration. These are in addition to the more than 100 consultants assigned to VA hospitals in the branch area, which includes North Carolina, Virginia, West Virginia, Maryland, and the District of Columbia.

Dr. Barnes Woodhall, professor of neurosurgery at Duke, was appointed consultant in neurosurgery, while Dr. Paul Reque, who teaches dermatology and syphilology at the university in Durham, was made consultant in those fields.

Other consultants named, with their designations, are: Dr. Robert Finley Gayle, neuro-psychiatry, and Dr. Dean B. Cole, tuberculosis, both of Richmond; Dr. E. C. Drash, thoracic surgery, of Charlottesville; Dr. James Greear, ophthalmology, Dr. Ralph M. Caulk, radiation therapy, and Dr. George M. Wyatt, radiology, all of Washington; and Dr. Francis P. Parker, pathology, of Atlanta.

Baltimore is represented by Dr. Benjamin M. Baker, Jr., internal medicine; Dr. George Eaton, orthopedic surgery; Dr. Alfred Lieberman, otolaryngology; Dr. John Herman Long, gynecology; Dr. W. Houston Toulson, urology; and Dr. I. Ridgeway Trimble, general surgery.

EMORY UNIVERSITY

A grant of \$12,500 from the U. S. Public Health Service for fundamental research in the mechanics and effects of fever by two Emory University professors has been announced by Dr. R. Hugh Wood, dean of the Emory School of Medicine.

The research, which began July 1st, is being carried on by Dr. Paul B. Beeson, professor of medicine, and Dr. Albert Haymen, instructor in medicine and director of the Venereal Disease Clinic at Grady Hospital, in Atlanta.

The two men have worked as a team for the past three years on research projects, under similar grants from the Public Health Service, but this is the first year in which they have turned their efforts on the problem of fever. Previously, their research has been on various phases of venereal diseases, particularly penicillin treatment of syphilis.

Appointment of Dr. R. Hugh Wood, physician-in-chief at the Emory University Hospital, as dean of the Emory University School of Medicine, has been announced by Dr. Goodrich C. White, Emory president.

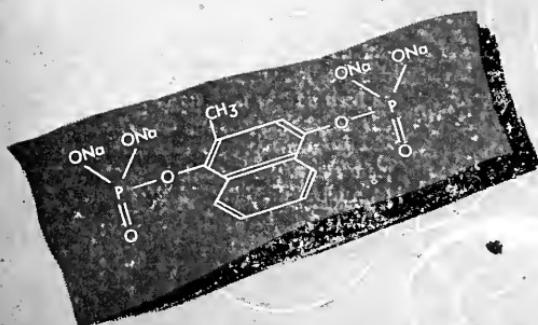
A native of Virginia, Dr. Wood received his medical training at the Medical College of Virginia, being graduated in 1921. He completed his internship at St. Elizabeth and Memorial Hospitals, Richmond, Va., and Peter Bent Brigham Hospital, Boston, Mass.

In 1924, Dr. Wood came as resident physician to the Emory Division of Grady Hospital. After two years he entered private practice in association with Dr. James E. Paulin. This association continued until 1934, when he began independent practice of internal medicine.

Dr. Wood in 1942 was appointed chief of medical service for the 43rd General Hospital (the Emory Unit) and served with the hospital in North Africa and Italy. He returned to the United States late in 1944 and, after a few months at Fort McPherson, was named Chief of Medical Service at Lawson General Hospital, position he held until his release from active duty in October, 1945. He left the Army with the rank of Colonel.

SCHERING MALE HORMONE ESTER IN VIALS

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ORTHOPEDIC SURGERY GRANT TO DUKE

The National Foundation for Infantile Paralysis has awarded a \$225,000 grant to Duke University to finance fellowships in orthopedic surgery over a five-year period.

Promising young physicians who have completed a year's internship will be selected for graduate study under the direction of the University's School of Medicine. The following institutions will serve as rotating teaching centers:

Georgia Warm Springs Foundation; Charlotte Memorial Hospital; Shriners' Hospital for Crippled Children, Greenville, S. C.; North Carolina Orthopedic Hospital, Gastonia; and the Orthopedic Department of the Duke University School of Medicine.

Physicians training under the fellowships will take specialized courses at the University in basic medical sciences and will have the opportunity for research in physiology, physical medicine and orthopedic surgery at the co-operating institutions.

DR. EUGENE A. STEAD TO SUCCEED DR. FRED M. HANES

Dr. Eugene Anson Stead, Jr., dean of Emory University School of Medicine since 1945, will succeed the late Dr. Frederic M. Hanes as professor of medicine at Duke University School of Medicine.

Dr. Stead, a native of Atlanta, received the B.S. and M.D. degrees at Emory University where he has served as professor of medicine, physician-in-chief of the Emory division at the Grady Hospital, and recently as dean of the School of Medicine. From 1935 until 1937 he was in-

structor in medicine at the University of Cincinnati, afterwards becoming associate in medicine at the Peter Bent Brigham Hospital, Boston, 1939-42.

Dr. Stead will assume his duties as professor of medicine at the Duke school on January 1st, 1947.

DR. Z. P. MITCHELL, Iredell County Health Officer, has resigned that work to accept a position as health officer for a district composed of the Counties of Pasquotank, Perquimans and Camden in Eastern North Carolina.

Dr. Mitchell went to Iredell County last November from Cleveland County, where he had been health officer for a number of years.

DR. JOHN S. MCKEE, JR., has been appointed Assistant Superintendent of the State Hospital at Morganton. He was a member of the medical staff of that hospital from 1933 to 1941. For a year he practiced in Morganton, and in 1942 he volunteered for service in the Medical Corps of the United States Army. Now on terminal leave from the Army, he resumes his connection with the State Hospital. His father is an active practitioner in Raleigh; his paternal grandfather, Dr. James McKee, was for several years Superintendent of the State Hospital at Raleigh, and his great-grandfather was a prominent physician in Raleigh.

DR. ARTHUR H. LONDON, JR., Durham, has been appointed a member of the Council of the Southern Medical Association from North Carolina for a regular Council term of five years beginning at the close of the annual meeting in Miami in November, the appointment having been announced recently by the President-elect, Dr. E. L. Henderson, Louisville, Kentucky. Dr. London succeeds Dr. W. M. Coppridge, Durham, who, having served the constitutional limit, is not eligible for reappointment.

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MARRIED

Miss Marjorie Downs Christian, of Lynchburg, and Dr. Richard Lacombe Schley, Jr., of Savannah, were married June 26th.

Mr. Catherine Wall Bunn, of Enfield, N. C., and Dr. Philip D. Zulick, of Abington, Penn., were married on June 29th in Rocky Mount, N. C. The bride is a graduate of Enfield High School and Rocky Mount Sanitarium School of Nursing. She did graduate work at Johns Hopkins Hospital, Baltimore, and Chestnut Hill Hospital, Philadelphia. She served 2½ years as lieutenant in the ANC. Dr. Zulick was graduated from Franklin and Marshall College in 1936 and the University of Pennsylvania School of Medicine in 1940. They will make their home in Philadelphia.

Dr. Woodrow Batten, of Selma, and Miss Mary Gordon Walters, of Bladenboro, were married on June 16th.

Mr. and Mrs. Charles A. Taylor, Jr., of Urbanna, announce the marriage of Mr. Taylor's sister, Miss Hattie Cridlin Taylor, to Dr. L. Fredrick Magruder, of Portsmouth, son of the late Dr. and Mrs. A. S. Magruder, of Mississippi.

The ceremony was solemnized July 29th at 4 o'clock at "Butyllo" in Urbanna. After September 1st, Dr. and Mrs. Magruder will make their home in Portsmouth.



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SAMPLES ON REQUEST

OPTIMUS PHARMACEUTICALS COMPANY, INC. TAYLORS, SOUTH CAROLINA

DIED

Dr. Benjamin K. Hayes, retired, a leader in the medical profession of North Carolina for many years and prominently identified with the public life of Oxford and Granville County for half a century, died at his home at Oxford July 5th, at the age of 76.

Dr. Hayes for a number of years was secretary-treasurer of the North Carolina Board of Medical Examiners and also secretary of the North Carolina Medical Society. He was Granville County Health Officer for four years before entering the Army as a medical officer in World War I.

Dr. Hayes in early life worked with the United States Geological Survey after attending Fishburne Military Academy. He later was graduated from the University College of Medicine, Richmond, Va., in the class of 1894.

Dr. Douglas Beaman Darden, 50, of Stantonburg, N.C., died July 17th, in a Richmond hospital, after an illness of almost a year.

Born in Greene County, N.C., he was educated in the schools there, at the University of North Carolina, and received his degree in medicine at the University of Pennsylvania in 1921. He returned to Stantonburg and practiced there until he was taken ill a year ago.

Dr. Darden was active in the social and fraternal life of Stantonburg and Wilson, was a past master of the local Masonic Lodge.

A veteran of World War I, Dr. Darden was a member of the American Legion, also of the local vatoire of the 40 and 8. He was a member of the Wilson County Medical Society and the Seaboard Medical Society and a member of the Sigma Chi fraternity of the University of North Carolina.

Dr. Darden was a brother of our own Dr. O. B. Darden, who died less than two years ago.

Dr. Spencer G. Gill, 58, Norfolk physician, died in a hospital there May 17th. He was prominent in civic and medical circles. A native of Petersburg, Dr. Gill was a son of the late Richard S. and Nannie Strachan Gill. He had been in practice in Norfolk for 28 years.

Dr. Joseph F. McKay, 85, oldest physician in Harnett County, died at his home at Buie's Creek July 19th. "Dr. Joe" practiced medicine in Harnett County for over 50 years, retiring ten years ago. At one time he was vice-president of the North Carolina Medical Society. He was also a leader in public health work for half a century, and did much to bring the Harnett County Health Department to the forefront in the State.

The old man with the brittle coronaries was admitted to the wards of a City Hospital as an acute emergency case with retrosternal pain, etc. The family asked me to step in to see him there. I discussed the case with the intern and as soon as he left, the old codger sat up and whispered into my ear. "Say, Doc, don't tell 'em too much. You know, I didn't tell 'em anything. Let 'em find it out for themselves. They got a lot o' machines here—and besides I'm paying taxes."

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BOOKS

TECHNIC OF PSYCHOANALYTIC THERAPY, by SANDOR LORAND, M.D., Member of the Faculty of the New York Psychoanalytic Institute. *International Universities Press*, 227 West 13th Street, New York 11, N. Y. 1946. \$3.50.

In this volume, the author tells us, is presented a large part of the matter of an advance seminar and colloquium in technic which he has been giving at the New York Psychoanalytic Institute for the past four years. He tells us that the basic principles as set forth by Freud remain valid, that the best teaching today consists of an expansion of the discoveries and conclusions of Freud. Further that psychoanalytic therapy cannot be learned from books and lectures alone, that the method of learning is for the most part centered in the analysis of the future analyst.

Basic rules are laid down. Then follow chapters on interpretation, anxieties and phobias, sexual difficulties, compulsion neurosis, character neurosis, neurotic depression, dream analysis, transference.

The book is passed on to the readers of this

journal for the formation of opinion by each individual reader. The reviewer is perhaps prejudiced against this form of therapy by his inability to comprehend what it is all about.

DIAGNOSTIC EXAMINATION OF THE EYE: Step-by-Step Procedure, by CONRAD BERENS, M.D., F.A.C.S., Professor of Clinical Ophthalmology, Columbia University; Executive Eye Surgeon, New York Eye and Ear Infirmary; Formerly Chairman, Section on Ophthalmology of the American Medical Association; and JOSHUA ZUCKERMAN, B.Sc., M.D., C.M., F.A.C.S., Instructor in Ophthalmology, New York University; Instructor in Ophthalmology, New York Eye and Ear Infirmary and Columbia University Postgraduate School. 410 illustrations, including 48 in full color on 13 plates. *J. B. Lippincott Co.*, E. Washington Square, Philadelphia 5. 1946. \$15.

The authors have undertaken to present a book for the general practitioner, the ophthalmologist and the medical student, and have made an excellent job of it. This is the only book written with this large objective, so far as this reviewer can recall, since May started to put out his little book some 50 years ago.

The present volume is much more detailed and comprehensive. It is, to use an excellent but much

abused word, a very practical book. One is never allowed to lose sight of the fact that the authors consider themselves, first physicians, afterward eye doctors. In considering and instructing how to find out what is wrong with the patient's eyes, every means of obviating the proneness of all of us to sins of omission and commission are reduced to a minimum.

CHUCKLES

A Sultan at odds with his harem,
Thought of a way he could scarem.
He caught him a mouse,
Set it loose in the house;
Thus starting the first harem-scarem.

A momma and poppa named a newly arrived son after a famous safety razor blade. Bets are that Junior will be a stroppin' big boy.

In 1941 there were eighty-six million telephone calls per day. That's a hello o' a lot o' conversation.

"Have you seen Angela's new swim suit?"
"No, what does it look like?"
"Well, in most places it looks like Angela."

Her lips quivered as they approached his. His whole frame trembled as he looked into her eyes. Her chin vibrated and his body shuddered as he held her close to him.

Moral: Never kiss a girl in a jeep with the engine running.

"Were there any powder marks on the body of the deceased man?" asked the coroner.

"Certainly there were powder marks and lipstick marks, too," replied the wife; "that's why I shot him."

Doctor: "What you need, young lady, is a little sun and air."

Sweet Young Thing: "That would be very nice, doctor, but I'm not even married."

A young medical interne had a habit of walking past the psycho ward each morning; in the yard of the ward one of the inmates was always going through the motions of winding up and pitching an imaginary ball.

"Why do you stop every morning and watch that screwball go through his pitching motion?" one of the doctor's friends finally asked him.

"Well," he replied, "if things keep going the way they are, I'll soon be out there with a glove catching for that fellow and I want to get on to his curves!"

"I've just been reading The Last days of Pompeii."
"Oh, what did he die of?"
"Some form of eruption."

Friend: "Do you mean to say your husband beat you when you arrived home after midnight?"

Doctor's Dife: "Yes—but only by twenty minutes."

The signs and symptoms lay halfway between the appendix and gall bladder: surgeon was called and after examination, said, "I think it is G. B."

The patient thereupon wailed, "Oh, Doctor, don't tell me that it is Good Bye."

THE NOT-SO PURITANS

By Barbara Henderson

Behold the godly Puritan!
He is the noblest work of man:
His granite visage stood the shock
Of landing on the Plymouth Rock.
He clothes himself in sombre black.
And wears a ramrod down his back.
He thinks it a Satanic wile
To greet Religion with a smile.
With whips he earnestly labors
The backs of would-be happy neighbors.
He chokes the laughter in their throats;
From out their eyes, he plucks the motes.
He does not hear the strangled moan:
"What of the beam within your own?"
I wonder if his victims bless
This rigorous self-righteousness.
Or murmur, writhing 'neath his rod
"Is he the noblest work of God?"
I think he is an Aryan.

Note—This brings to mind an old resolution of the editor to write a book showing, on their own testimony, that more cruelty was inflicted, more blood shed by the lash, by the Holy Ones of Massachusetts and Connecticut on New England ships; also that New England slave-owners, when they found slave-ownership unprofitable, did not free their slaves, but sold them South, then promptly proclaimed the heinousness of the sin at owning slaves.

TREATMENT OF MINOR BURNS ACQUIRED IN THE LABORATORY AND AT HOME

(Saul Malkiel & W. C. Boyd, Boston, in *Jl. Mo. State Med. Assn.*, Aug.)

In laboratories and homes many persons suffer minor burns, usually of small areas and seldom more than second-degree. In the treatment of such burns the methods developed for the more extensive and severe burns are usually not necessary or even preferable.

The three main dicta are: 1) The skin should be preserved intact whenever and wherever possible, 2) infection of the burn should be avoided, and 3) the pain should be relieved. The skin generally is intact at first, and a liberal application of a saturated aqueous solution of picric acid is generally enough to tan the skin so it does not break, if light, dry sterile dressings are used temporarily for portions of the body exposed to friction or abrasion. Picric acid can readily be kept on hand in the home. It is a mild antiseptic and anesthetic and, therefore, in large measure, answers the second and third requirements. In any case, treatment with antibiotics generally would control any resulting infection. The pain or a minor burn generally becomes negligible within 30 minutes after the application of picric acid.

Butesin picrate ointment has more anesthetic action, but like all ointments it softens the skin and encourages breaks at the site of the burn. This often leads to infection.

The same objection applies to the use of vaseline or ointments containing sulfa drugs. Also, local application of sulfanilamide and related compounds sometimes results in dangerously high levels in the blood. Tannic acid or triple dye may delay the healing of burns. Picric acid treated burns heal fairly promptly. In a recent case sulfathiazole ointment was used and healing, in the absence of infection, was very slow. In burns involving large areas the question of contracture and interference with circulation would be a possible objection to the use of picric acid. Allergy to picric acid is possible, but has never been encountered in our experience.

The fluid in blisters treated with picric acid generally is reabsorbed, so that protein and electrolyte are not lost, and plasma is not needed. The damaged portion of the skin becomes flush with the underlying portions. In properly treated patients this damaged skin generally remains until sound new skin has developed underneath it.



Everybody knows him...

Early or late, he's a familiar figure to every policeman on the street—he's the Doctor—he's on an emergency call!

• A Doctor's life isn't his own to live as he chooses. There are interrupted holidays and vacations and nights of broken sleep. Emergencies require his presence for long, exacting hours . . . with somewhere a pause and perhaps the pleasure of a cigarette. Then back to his job of serving the lives of others.



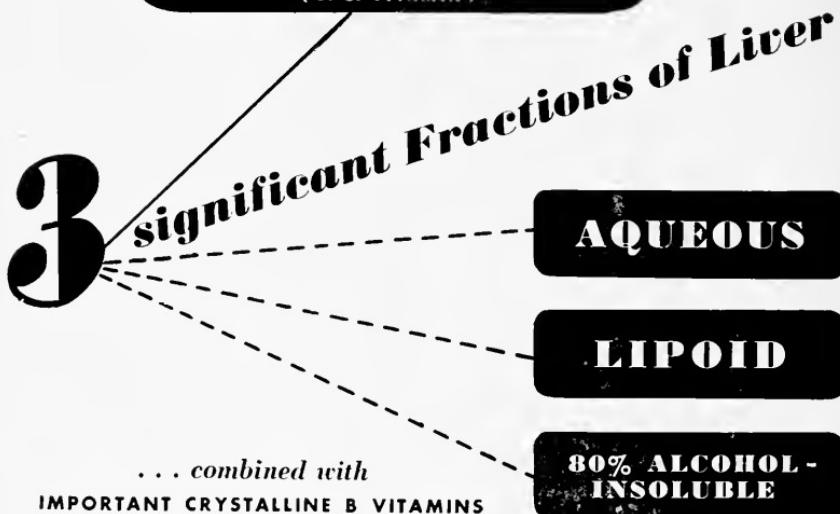
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^{*}A. T. Hertig & R. G. Livingstone, *New England J. Med.*, 230:798, 1944

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Surgical Relief of Post-Traumatic Pain*

FREDERICK E. KREDEL, M.D., Charleston

From the Department of Surgery, Medical College of the State of South Carolina, and the Roper Hospital

PERSISTENT localized pain after trauma to a part not infrequently presents a difficult problem in treatment. Studies on the causes of such persisting pain and on methods of alleviation are of interest. In many instances the pathologic changes causing pain involve a very small mass of tissue and surgical procedures of a minor nature may suffice for relief. Often these may be done in the office and may require simple injections rather than operations. One can accomplish much as a "Needle Surgeon." This does not imply that an internist or a general practitioner, with a knowledge of anatomy and aseptic technique, cannot also perform nerve blocks.

The principles to be considered involve temporary or permanent interruption of painful nerve impulses from the zone of injury. It may be well to note here that both somatic and sympathetic nerve impulses may be concerned. A careful history and examination are essential. Particularly one must search for evidence of localized tenderness by various methods of stimulation and for trigger zones in more widespread radiations of pain.

Pain remains largely a subjective symptom, the evaluation of which depends upon a sympathetic rapport between patient and physician. We have, as yet, no instrument of precision to measure quantitatively the degree, character, or even the presence of pain. In cases involving monetary compensation for disability the difficulties of a proper evaluation are colossal and sometimes insurmountable.

Painful scars have presented an interesting field of study. In every instance of solution of continuity of tissues by laceration or incision nerve fibres are divided. Usually the period of post-traumatic pain does not long exceed the time required for complete healing of the tissues generally. In some cases, however, persistent pain may result from continued involvement of divided or exposed nerve fibers. Chronic inflammatory changes about nerves may persist for months and even years; even though the skin wound has healed and the ordinary signs of inflammation are absent. Further, nerve fibers may become compressed in scar tissue. The tendency to nerve regeneration is so great that even very small nerves or single nerve fibers may grow into areas of cicatization and thus form microscopic neuromas.

When confronted with a case of persistently painful scar, one should examine the scar for evidence of localized areas of hypersensitivity. Novocaine blocks of such areas are important diagnostically and may occasionally afford prolonged relief of worthwhile degree. When surgical excision is indicated, relief of pain may be obtained by simple excision of the painful spot without removal of the entire scar. The depth of nerve involvement must be evaluated to determine the amount of surgery necessary. In most instances in our series of some 30 painful scars the pathologic nerve changes have been in the skin and subcutaneous tissues. Occasionally deep nerve trunks are involved, notably the ilio-inguinal or ilio-hypogastric nerves after herniorrhaphy.

*Presented before the Tri-State Medical Association, Forty-seventh Annual Meeting, Feb. 25th-26th, 1946.

Regardless of cause the relief of pain after local excision of painful spots has been gratifying. There has been little tendency to later recurrence of pain in these cases. Painful spots in mastectomy scars after operation for carcinoma, with or without a palpable nodule, have often proved to be regeneration neuromas and not recurrence of carcinoma.

Another type of post-traumatic pain under study in our clinic is that of headache after crano-cerebral injuries. Lacerations of the scalp without penetration through the skull or dura are considered ordinarily of little consequence, as indeed they are in relation to immediate threat to life. In some instances these patients complain later of persisting and disabling headache. Curiously enough the type of discomfort is not the neuralgic, sharp, or radiating pain more often associated with nerve lesions in other parts of the body. Apparently to most patients pain in the cephalic region is a headache and nothing else.

Here again careful examination for local areas of tenderness becomes of importance. The initial injury may have been an obvious laceration or local contusion. In cases seen late, the local injury may have been forgotten and evidence of skin damage may not be detected readily, particularly over areas covered by hair. On examination pressure over the area of injury may not only elicit local tenderness but may reproduce the so-called headache of which the patient has complained. Particularly in the frontal region one may obtain the history of aggravation of the headache from pressure of a hat-band or, in the case of industrial workers, of a protective helmet.

Treatment of headaches with local areas of scalp tenderness has been varied. Excision of scarred tissues has been beneficial when the local findings have been marked. Nerve blocks in other cases have been adequate. For the supra-orbital nerve prolonged denervation by alcohol block has been useful, since one can place the injection into the nerve at its exit from the skull with precision. Such a favorable anatomical situation does not exist in the temporal and occipital regions. Here one may try simple novocaine blocks or the use of longer-lasting anesthetic agents such as Eucipin in oil or ammonium sulfate as advocated by Bates and Judovich. When injections fail to give satisfactory relief, proximal division of major nerve trunks may be indicated. It is important to note that regeneration of such divided nerves often leads to recurrence of the symptoms after some months. Studies are under way to determine the best means of preventing such undesirable nerve regeneration into painful areas.

When post-traumatic headache is accompanied by spasm of the occipital muscles, local physio-

therapy and prostigmine bromide orally may be of benefit.

Local nerve blocks has a limited usefulness in post-traumatic backache. In acute cases showing marked point tenderness, local infiltration of procaine is worthy of trial. Epidural infiltration by the caudal route has been of some benefit, particularly where there is an associated osteo-arthritis. Both procaine and dilute ammonium sulfate have been used. Subarachnoid injections are rarely indicated in post-traumatic cases. Relief after vertebral collapse from carcinoma metastasis and in cases of advanced rheumatoid arthritis may be considerable from ammonium sulfate injections. The dangers of bladder paralysis and other complications, however, cause one to limit subarachnoid injections to these hopeless conditions. Subarachnoid alcohol blocks for relief of intractable pain should be done only by an expert.

Certain other types of acute post-traumatic pain lend themselves to nerve blocking. Sprains, notably of the ankle, may be treated by immediate procaine infiltration into the painful areas with subsequent mobilization and use of the sprained area. Fractured ribs, as well as acute pleuritic pain, may be treated by intercostal nerve blocks. It is of great theoretical interest to speculate why a single injection of procaine, whose direct effect as a local anesthetic lasts less than one hour, may have a more prolonged or even permanent effect in abolishing pain. It seems as if the cycle of painful impulses from an area of injury, once interrupted, tends not to become reestablished.

A more prolonged effect than that obtained from procaine is desirable in many instances. A fertile field for investigation is the study of materials that may be used for more prolonged nerve block without causing undesirable tissue damage. In our experience thus far Eucipin in oil has proved of considerable usefulness in this regard. It is our practice routinely to block the appropriate intercostal nerves with Eucipin in fractured ribs, thoracotomy incisions, and upper abdominal incisions. Not only is pain as such abolished for a number of days, but the possibility of early rising and general mobilization of the patient is enhanced.

The sympathetic component of acute post-traumatic states is worthy of mention. Autonomic dysfunction may not only cause pain, but may lead to a degree of ischemia through vasospasm sufficient to result in gangrene. Military experience in the recent war has shown the value of repeated procaine blocks of the appropriate sympathetic ganglia in such cases, and even in the severest cases of emergency ganglionectomy. Local application of reduced temperatures rather than the old procedure of warming a part threatened with ischemic gangrene is a recent advance in therapy.

of the greatest practical importance. Vasodilator drugs, notably adequate doses of ricotinic acid, have proved of definite value in our experience.

Chronic post-traumatic dystrophies and pain syndromes, including the causalgias and Sudeck's atrophy, present a difficult problem in therapy. The sympathetic component is likely to be the major one. After a favorable test by procaine block sympathetic ganglionectomy is indicated.

A number of post-traumatic painful states have been reviewed. The importance has been stressed of evaluating the precise anatomic localization of the origin of the painful impulses. The cycle of pain may be interrupted in many cases by relatively simple surgical procedures.

NOTES FROM THE DEVELOPMENT OF THE ARMY MEDICAL DEPARTMENT

(H. P. Sawyer, Col., Med. Corps, U.S.A., Ret., Montgomery, in *U. S. Med. Assn. Atla.*, Aug.)

Congress once passed a law fining every officer \$10 and every private \$4 who should contract venereal disease. The fund thus raised was to be expended for blankets and shirts for sick and wounded soldiers. Neither the amount of the fund nor any improvement in the venereal situation is recorded as accruing.

Baron von Steuben was the drillmaster of the Revolution. His imperfect knowledge of English and his hybrid Flemish-German-French patois often stalled his program of instruction completely and forced him to call upon his Aide, Major Walker, the one accomplished linguist in the Continental Army. It is told of him that, after hours of fruitless labor over a company of raw recruits, the Baron's temper became a bit frayed. Dashing his elegantly laced chapeau to the ground, he bellowed: "Walkaire, mon bon ami, komm hier, venez ici queek, toute de suite, right away, an' elp me mit de worts. Sacre goddam de gaucherie de dese bedauds!"

Surgeon General Thomas Lawson, in 1838, made his first official report, which shows that the main strength of the Army was 9,748 and that the year's admissions to sick report were 338,559.

Lafayette Guild, Chief Surgeon to the Army of Northern Virginia from '62 to '65, was an assistant Surgeon in the U. S. Army before the war. He resigned at its outbreak to serve the Confederacy. He had served with Lee, A. S. Johnston, and Josiah Gorgas and was a great friend of all of them. They all wanted him apparently but Lee succeeded in annexing him, than which nothing could have been more fortunate for his Army. For a man of his scholarly attainments and great personal charm, he was a surprisingly able administrator, as his handling of Lee's medical problems proved time and again. His most astonishing feat of which we have record was his evacuation and care of the wounded after Gettysburg. It was a model of perfect organization against fearful odds and constant harassing attacks. In that long retreat to Virginia Guild's masterly work in leaving only 150 moribund wounded behind was well-nigh incredible. The pressure to which he was subjected toward the close was appalling. This is evidenced by his many movingly beautiful letters, still extant, in which he makes touching appeals for such simple things as potatoes and vinegar to avert the scurvy that was reducing the Army's effectiveness more than wounds. In October of '62 he made some caustic complaints concerning the sharp practices of the Federal authorities in the exchange of wounded prisoners.

The inadvertent use of x-ray cost us many of our best officers from resulting malignant growths, most notable among them Colonel Eugene Northington. Those privileged to know this brilliant, able, lovable officer have a treasure of memory that is priceless.

Dental surgeons were first employed in 1901 on contract but it was not until 10 years later that the Dental Corps was made officially an integral part of the Department and, even then, not to exceed 60 officers.

CLINICAL COMMENTS

(F. K. Albrecht, in *Current Med. Dig.*, June)

Watson reports the case of a four-year-old boy who received 10% boric acid ointment for "weeping eczema" involving the entire body. Following three general applications within 24 hours, the t. rose to 102 and later to 107; convulsions ensued, followed by coma, blindness, deafness and death. Since boric acid is neither an antiseptic nor a potent bactericide and since we have less dangerous but more effective germicides, there is little if any reason for using this ancient remedy.

Due to optimistic writings of the past few years, the impression gained by laymen and physicians has been that the problems of getting and keeping good teeth have been solved. All that is required is to indulge in a liberal diet of fresh fruits and vegetables and take large doses of vitamins. Unfortunately, this is not true. There is no nutritional basis for caries or periodontal disease. After the first six years of life, there is no evidence that caries is increased by a deficiency of vitamin A, or that the administration of vitamin A or C or D will prevent caries.

There is a large literature on the deleterious dental effects of overdosage with vitamin D.

The reduction of carbohydrate intake tends to reduce or even arrest the progress of dental caries.

Only one drug, sodium or potassium thiocyanate, persistently lowers the blood pressure and keeps it at low levels. There is doubt as to its having any effect on the course of the basic disease. There is little point in prohibiting the use of proteins or sodium chloride.

There is no reason to alarm a patient demonstrating a blood pressure between 90 and 100 mm. of mercury, or to administer thyroid substance. Since there is no known treatment for thickened or sclerotic blood vessels it is kind to keep quiet about them.

Most patients with murmurs do not need any treatment.

There is no satisfactory evidence that calcium is of any benefit in cases of bleeding. In those with oozing who are jaundiced, vitamin K should be administered.

Iron therapy is most useful in secondary anemia; liver extract in primary hyperchromic anemia.

There is little if any effect on the common cold from the use of vaccines.

FOREIGN DOCTORS STUDY N. C. HEALTH PLAN

Dr. Ali T. Shousha Pacha, undersecretary of state for medical affairs in Egypt; Dr. Hafezi, director of statistics and publicity for the Ministry of Health in Iran; and Dr. Alfred Riquelme, director of nutrition for the ministry of health in Chile, have been in Raleigh making a study of methods employed by the North Carolina Board of Health.

The physicians visited New York City for the United Nations' health conference and are visiting public health centers of which they have heard most favorably.

EVERY CHILD with a persistent stridor, hoarseness, dyspnea, cyanosis, or noisy respiration should have a direct laryngeal examination.—D. S. DeStio, in *Penn. Med. J.*, Aug.

Relations Between Immediate and Delayed Skin Reactions*

JOHN L. JACOBS, M.D., Atlanta

IN THE clinical practice of allergy one finds that patients tested by the scratch or intradermal methods to pollens, dusts or foods usually give, if they react, wheal and erythema reactions which occur within a few minutes and subside within one or two hours. On the other hand simple chemical substances, such as drugs, give delayed reactions which are usually studied with patch tests read after twenty-four to forty-eight hours. The different methods of testing found necessary for the chemically differing classes of compounds have led to the supposition that the reactions involved differ considerably in their mechanism. On the other hand studies on the sensitization of humans to streptococci¹ have suggested that immediate and delayed reactions may depend upon the strength of sensitization, with the immediate reactions requiring stronger sensitization.

Discovery of a simple chemical substance producing both immediate wheal and erythema reactions, and strong delayed reactions,^{2,3} suggested that further information might be obtained by an investigation of these relationships.

METHODS

For sensitization clear-eyed albino guinea pigs were used throughout. The animals were injected intracutaneously on the back, twice a week, with 0.05 c.c. of a 0.1% olive oil solution of citraconic anhydride. Only two or three injections were necessary, and the animals were tested not more than two weeks after the last injection.

Tests for sensitivity to citraconic anhydride were carried out on the animal's flank, from which the hair had been removed with an electric clipper, by placing a drop of 25 per cent solution of citraconic anhydride in dioxane on the skin and scratching through the drop, as in a human scratch test, with a straight needle. Patch tests were performed by gently spreading one drop of 25 per cent solution of citraconic anhydride in dioxane on the skin with a glass rod.

Almost all guinea pigs treated with citraconic anhydride gave strong reactions, but it was found that, in general, only the most strongly sensitized gave immediate wheal and erythema reactions.

Also, observing the onset of the immediate reaction minute by minute, it appeared, by and large, that the strongest reactions were the quickest to develop. (Table I.) There were variations from this rule, however, and the differences in time of onset of the reactions were very striking only when the ultimate differences in strength of the reactions were considerable.

In the most strongly sensitized guinea pigs wheals appeared, not only at the test site, but also at old injection sites, and in some cases on other parts of the body. A few guinea pigs showed generalized reactions. Observations of the differences between reactions at the test site and flareups proved most interesting. (Table 2.) Reactions at the test site showed strong immediate wheals and erythema and always developed a strong delayed reaction after twenty-four hours. Lesions appearing on other parts of the body, however, consisted of strong immediate reactions which had completely disappeared by the next day, and sometimes were gone within two hours of the test. Reactions appearing in areas immediately adjacent to the test site, and obviously receiving lymphatic drainage from the injection area, were intermediate in their behavior, sometimes showing only immediate reactions and sometimes going on to show delayed reactions.

When readings were taken at intervals for eight hours or more it became apparent that the response to each injection developed in two phases. The first phase—the immediate wheal and erythema reaction—had its onset within two to perhaps forty-five minutes, developed to a maximum at from twenty minutes to one hour or more, and after two hours began to fade, reaching a minimum at from four to six hours after the injection. Thereafter pinkness began to return to the lesion, and swelling often increased up to twenty-four hours.

While this sequence of events was first observed with scratch tests, it can also be seen in patch tests on highly sensitized animals. Again the minimum is reached at four to six hours, followed by a marked increase in thickness and swelling, up to twenty-four hours. Onset of the scratch tests is, in general, much slower than the patch tests. As in the case of the scratch test the most highly sensitized animals give an immediate patch test. Less well sensitized animals rarely show a positive patch test sooner than six to eight hours after contact with citraconic anhydride. These relationships may

*From the Department of Pathology and Bacteriology, Tufts College Medical School, Boston, and 421 Loew's Grand Theatre Building, 157 Peachtree Street, Atlanta.

Paper read before the Southeastern Allergy Association at the annual meeting in Atlanta, March 31st. The investigation was aided by a grant from the Charleston Research Fund of the Tufts College Medical School. The author's thanks are extended to Mr. J. Kelley for his technical assistance.

Table I

SPEED OF ONSET AND STRENGTH OF REACTION IN MARKEDLY HYPERSENSITIVE GUINEA PIGS

Figures represent size of wheal in millimeters

No. of guinea pig	Treated with	Tested by scratch method with 25% citraconic anhydride and read after					
		2 min.	4 min.	8 min.	12 min.	20 min.	24 hours
1		0	0	0	6	6	20
2		0	0	0	0	0	15
3		0	0	0	0	13	20
4	Citraconic	0	0	5	10	13	23
5		0	4	6	9	17	25
6	anhydride	0	0	0	0	4	20
7		0	0	0	4	6	17
8		0	0	0	0	9	14
8		0	0	0	0	9	14
9		0	0	7	13	16	25
10		3½	13	18	20	21	20
11		0	8	10	10	12	15
12	Untreated controls	0	0	0	0	0	0
13		0	0	0	0	0	0

Table II

DIFFERENCES BETWEEN TEST SITE AND FLAREUPS

Reactions at test sites (T) are indicated in millimeters; flareups and generalized reactions (F) by (+) or -. Guinea pigs tested by scratch method. Combined table.

Table III

DIFFERENCES IN ONSET OF SCRATCH AND PATCH TESTS

Sensitization of albino guinea pigs by 5 weekly intracutaneous injections of 0.5 citromic anhydride each in olive oil followed by a two-weeks interval before testing. Tested simultaneously by scratch (S) and patch (P) tests on opposite flanks. Figures indicate width of lesion in millimetres.

be clearly seen in Table 3.

Presumably the more highly sensitized animals react more quickly, partly because they are capable of reacting to smaller concentrations of citraconic anhydride or its conjugates. The disappearance of flareups and generalized lesions at sites other than the test sites without producing a delayed reaction might be explained by the lack of a sufficient concentration of citraconic anhydride conjugate at these points. Likewise the much quicker onset of scratch-test reaction, as compared to the patch-test reaction, may be due to easier penetration of the citraconic anhydride through the nonreacting outermost skin layer.

This evidence suggests that the epidermis acts as a barrier which is broken by scratching the surface, which does not support the idea that in reactions to drugs the epidermis is the reactive tissue.

The fact that in this case a single substance produces both immediate wheal and erythema reactions and a delayed reaction of the tuberculin type points toward the essential unity of these immunological processes. It suggests that the difference in response depends more on solubility and concentration of the antigen and the site of application, than upon fundamental differences in the nature of the reaction. At the same time, however, one must remember that, unlike the present case, in many instances sensitization may be limited to and determined by antibodies in a particular tissue or type of cell.

SUMMARY

1. Citraconic anhydride produces both wheal and erythema reactions and delayed reactions of the tuberculin type, with two distinct reaction phases.

2. The speed of onset of both immediate and delayed reactions is, in general, most rapid in the most highly sensitized guinea pigs.

3. Flareups and generalized reactions tend to be of the immediate variety, without delayed reactions.

4. Both scratch tests and patch tests are produced by this substance, the patch tests being in general, but not always, in highly sensitive guinea pigs, much slower to develop than the scratch tests.

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FOR MOSQUITO control during mild winters, special emphasis should be placed on the elimination of all small receptacles, since many possibly would have viable eggs adhering to their inner surfaces, and some of these eggs may remain dry or even wet for long periods and still hatch and develop into adults.—S. P. Hatchett, in *Pub. Health Rep.*, Aug. 23rd.

BENZEDRINE FOR SLEEPING-PILL POISONING

THESE doctors¹ treated 14 patients with poisoning from sleeping pills by giving them injections of benzedrine into the veins. Thirteen patients recovered completely except for a slight headache. The one patient who died had not received, in the estimation of these doctors, a sufficient quantity of the drug because it was not available.

The typical symptoms are coma, shallow breathing and blood pressure falling rapidly to shock levels. The need is for active and persistent treatment. Unless blueness of the skin with cycles of increased and decreased respiration or fever has developed in addition to the other symptoms, the usual impression is that the patient is merely in a deep sleep and will awaken after the effects of the drug have worn off. Valuable time may be lost if active treatment is not undertaken promptly, for death will occur from respiratory depression, bronchopneumonia or partial collapse of the lungs.

Picrotoxin these doctors consider too dangerous because it commonly leads to convulsions while the patient is still in a deep coma.

In conclusion they state: "The evaluation of any drug in barbiturate intoxication is very difficult, the individual response to different doses is so variable. Some of the patients, if undisturbed, might have a long sleep and awaken none the worse for their experience. However, the need for active treatment to prevent pulmonary stasis, congestion, pneumonia and atelectasis is always present. The shallow respiration of the person in deep sleep makes him a potential candidate for these pulmonary complications, and shortening the period of sleep, even though it may not be treatment essential to preserve life, is desirable."

These doctors used a preparation containing 10 mg. of amphetamine sulfate in 1 c.c. of isotonic solution of sodium chloride. A complete examination was made of the pupillary reflexes, deep tendon reflexes, pulse rate, respiratory rate and blood pressure before the injection, and then the contents of one ampule (10 mg.) were injected intravenously without dilution. Later they found they could use larger doses with safety and started treatment in some instances with injections of 40 mg. of the undiluted drug and continued with 20 mg. doses injected every 30 minutes. Observations of the blood pressure and pulse rate were made just before and after each injection. An immediate rise in blood pressure with an increase in the rate and fullness of the pulse were obtained in all cases. The pupils became dilated as a result of the sympathomimetic action and remained so during the course of the treatment. Supportive treatment in the form of fluids given intravenously was used in some cases in which there was dehydration.

¹ A. W. Freireich & J. W. Landsberg, Hempstead, N. Y., in *Jl. A. M. A.*, June 22d.

DEPARTMENTS

HUMAN BEHAVIOUR

JAMES K. HALL, M.D., *Editor*, Richmond, Va.

OF PROFIT

THE NEWSPAPERS of the capital of the ancient Commonwealth of Virginia and of the late Confederacy have lately carried detailed accounts of the state as a saloon keeper. We Virginians, however we may be, do each and all of us engage in the sale of alcoholic beverages to all who are able to pay exorbitantly for the intoxicants.

I inferred from the discussions I heard and read in the legislative halls that the statutory enactments that brought about the establishment of so-called A B C stores were intended to lessen the drinking of alcoholic beverages within the state. Those who know anything about the pharmacological and psychological effect of alcohol on man know that alcohol is one of the many habit-forming drugs. Most of those who drink alcohol are addicts to it. The A B C stores depend upon them to purchase their goods.

The subtended statements about the financial features of the Commonwealth's activities as a saloon keeper are obtained from the *Richmond Times-Dispatch* of August 28th.

The fiscal year of the government of Virginia embraces the twelve months between July 1st and June 30th. In that period of 365 days in 1945 and 1946 the total profits of the state as a liquor dealer were reported by the state Alcoholic Beverage Control Board to be \$14,232,059.70. The amount reads in long hand—fourteen million, two hundred and thirty-two thousand, fifty-nine dollars and seventy cents. Of this vast sum of money the Board reports that the state will retain \$5,244,019.90—five million, two hundred and forty-four thousand, nineteen dollars, and ninety cents. Of this total sum of more than fourteen millions of dollars, \$8,988,039.80—eight million, nine hundred and eighty-eight thousand, thirty-nine dollars and eighty cents—are distributed among the localities of the state. "After many days it will return unto thee—bread cast upon the waters." The sacred statements must be confirmed even in the spiritual world. During the most recent fiscal year, about which we are speaking, the returning bread meant to each citizen of the state in money \$3.56—three dollars and fifty-six cents—quite enough to pay for one good, though unavailable, shirt—or for another pint of dubious whiskey.

In my college days, when I must acquire some seeming superficial understanding of the higher ex-

ercises in mathematical discipline, I was almost as bewildered as I am in these less serene days after I have imbibed two or three or more ounces of prohibitory state whiskey. I find myself wondering if Professor Einstein or Professor Archibald Henderson could not inform us how much we Virginians should have to indulge ourselves through our A B C stores to pay entirely for the operation of the government of the old Commonwealth, and to remit also to each of us citizens the few thousands of dollars necessary to keep us alive and efficient and happy from each July 1st to each June 30th. When that shall have been done, then Democracy will have succeeded.

I observe with considerable disappointment that the newspaper's story relates only to the financial aspects of the state's bar-keeping. And even the financial report is unilateral, or even more fractional. I assume that few alcoholic beverages are manufactured in Virginia. Most such potables must be imported from other states and from alien lands. The Prohibition Board should tell the people of Virginia how much of their money was sent into other states and into other lands to make it possible for Virginia to profit to the extent of \$14,232,059.70 as a saloon keeper. And the citizenship should be informed about the cost of operation of the state's alcoholic business. There must be salaried officials, many of them, high and low; and many a Bonny Doon moving about in simple civilian attire amongst the populace to discover and to report upon any unbelievers in the benefice of the great desiccating, uplifting agency.

I doubt, I must confess, both the willingness and the capacity of the highly skilled government of Virginia to catalogue otherwise than in money the dramatic and tragic and destructive effects of the Commonwealth's sale of intoxicants to its citizens. A Scot is reputed to have said that alcohol preserves what is put into it and destroys the living thing into which it is put.

Is man competent to solve any problem; to make answer to any question? Many of the ancient interrogatories remain unanswered.

'What profiteth it a man to gain the whole world . . . ?'

What profiteth it Virginia to intoxicate her people?

DR. CLARENCE ORION CHENEY retired as Medical Director of the Westchester Division of New York Hospital on July 15th. Those who have been long engaged in psychiatric work think of the hospital as Bloomingdale, at White Plains, in New York. It is one of the first-class mental hospitals in the United States, old in years and distinguished in high service to mankind. Many of the eminent psychiatrists of this country have been associated with old Bloomingdale.

Dr. Cheney came into the Directorship of Bloomingdale ten years ago. His basic education was sound; his medical and his psychiatric training were broad and varied and thorough; and the Westchester Division was fortunate in having the last ten years of his psychiatric activity.

Dr. Cheney has given of himself generously to teaching as well as to psychiatric practice and hospital administration. Students both of the College of Physicians and at Cornell profited by his tutelage. He served for some time as Secretary of the American Psychiatric Association; and he has been President of the Association. His comfort should be ministered to by his realization that he has always performed well and cheerfully his varied medical work.

Dr. Cheney has been succeeded in the Directorship of the Hospital by Dr. James Hardin Wall, who had been Assistant Director for the last ten years. Dr. Wall is a native of Lancaster, South Carolina; his education was had at the University of North Carolina and at Jefferson Medical College. Since he began his psychiatric career, two or three years after graduation in medicine, his progress has been steadily upward. He is one of the psychiatrists of first rank in our country. His friends in both the Carolinas have observed with satisfaction the distinguished place he has come to occupy in the world of psychiatry.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

CHRONIC PROSTATITIS PLUS NON-SPECIFIC URETHRITIS

THE MAGNITUDE of the problem of chronic urethral discharge and chronic prostatitis, although due in part to increased incidence of the disease, is, in the opinion of Cooper and MacLean,¹ due chiefly to the fact that effective treatment has been almost unknown.

Of their 150 cases that had failed to respond to accepted forms of therapy, studies have been completed in 100 of these cases and form the basis of this report.

These cases fell into three principal groups: 1) with previous history of gonorrhreal urethritis (36%), 2) with previous history of nonspecific urethritis (50%), and 3) with no previous history of urethritis (14%). Main complaints in the third group were varied in nature.

In the first two groups, urethral discharge was present in 84 to 91% of cases, being the presenting symptom in over 70% of cases. In the third group, in which there was no previous history of urethritis, urethral discharge was the presenting

symptom in only 21%. Pyuria without symptoms was present in 28% of this group, while vague perineal discomfort, frequency and backache occurred in another 21%. This is the group in which diagnosis is so apt to be overlooked. In those who had a discharge, it was thin, watery and gray in 90%, and a thick mucoid material of varying shades of yellow in the remaining 10%.

The majority of these patients gave a history of alcoholism and sexual excess immediately preceding onset or recurrence of symptoms favoring subsequent invasion by a) organisms from the host which normally are non-pathogenic, b) exacerbation of a previous prostatitis in which there is still some residual infection present, c) organisms from a carrier that may or may not be pathogenic to the carrier.

Bacteriologic showing on direct smear and culture: staphylococci alone in 55 cases; diphtheroids in 10 cases; and staphylococci in combination with micrococci, streptococci, and trichomonas, in an additional 32 cases. Gonococci were found once and trichomonas vaginalis twice.

Diagnosis was made by 1) history and symptoms, 2) presence of urethral discharge, 3) three-glass urinalysis, and 4) examination of prostatic fluid.

Urethral discharge, frequency, burning, terminal hematuria and vague perineal discomfort are almost pathognomonic. The condition of the prostate as revealed by palpation bears no relation to the pathology. In some cases the gland is firm and fibrosed; in others it is soft and normal to palpation, thus indicating that examination of prostatic fluid is essential.

In these cases, we administered 25,000 units penicillin every four hours for 14 days. A total of 2,100,000 units was given each patient. Prostatic massage was done twice a week, and the fluid obtained examined. Subsequent cases revealed that this massage was essential in treatment.

Symptomatic improvement was first noticed at the 5th to 10th day, usually at the 7th day, also decrease in the number of pus cells in the prostatic fluid.

Results for designation as *cured* are defined as: a) the patient is entirely asymptomatic and there is no urethral discharge, b) the 3-glass urinalysis test is normal, c) the prostatic fluid on culture is negative for gonococci, d) the number of pus cells in prostatic fluid is below five per h. p. f., and e) reexamination in three months' time confirms the findings. *Apparently cured* means that the patient had satisfied the criteria a) to d) above, but has not yet returned for the three-month checkup; that there are no symptoms, but prostatic fluid shows more than five plus cells per h. p. f. and less than 20. The term *failure* is used for those cases in which symptoms or signs persist.

¹H. G. Cooper & J. T. MacLean, Montreal, in *Canadian Med. Assn. J.*, Feb.

There were six failures on penicillin therapy alone because of various anatomical complications. When these complications were corrected by circumcision, meatotomy, or dilatation, as indicated, the end results were satisfactory.

Two cases of trichomonas vaginalis were treated with stabrin, 1.5 gr., t.i.d. for five days. In one the discharge disappeared entirely; in the other, a mixed infection, discharge continued but trichomonas was absent.

All 100 patients were asymptomatic at time of discharge from hospital, soon after completion of the two weeks of treatment. Of these, 75% were apparently cured, and the remaining 25% were improved. Upon reexamination two months later, 74 were still apparently cured, 10 were improved and 15 could not be traced. Results for the 3-month examination were not available at the time of writing of this paper.

In further cases studied, many completely failed to respond to the first course of penicillin and prostatic massage, but responded to a second course, although an occasional case continued to remain resistant to all forms of therapy.

Prostatic massage twice a week is considered an integral part of treatment, as, with penicillins alone, the number apparently cured dropped to 10%.

HISTORIC MEDICINE

MICHAEL SERVETUS

CHAINED to the stake on the garden slopes of Champel, just outside the city wall of Geneva, at 11 a. m. on October 27th, 1553, Servetus awaited the application of the torch to the bundles of faggots piled about him. Impatient hands soon applied the fatal torch and the life of one of medicine's most deserving servants ended in the flames. He recanted nothing. The religious beliefs which led to his destruction were the outgrowth of his study and interpretation of the Scriptures.

The martyr's book was heretical in that it challenged the doctrine of the Trinity. Servetus was what would be called today Unitarian in belief, a belief comparable to that held later by such men as John Milton, John Locke, Sir Isaac Newton and Ralph Waldo Emerson. For this belief he was first condemned to death but only burned in effigy, with 500 of his books in actuality, by the French agent of the Inquisition. Making a successful jail-break, he had escaped into Switzerland. But his flight to Geneva placed him at the mercy of John Calvin, Protestant autocrat and theocrat, so this trek was only a leap from the frying-pan into the

¹. *Medical Times*, July.

fire. He was promptly seized by the Protestant *führer's* Gestapo and after a trial lasting two months Servetus was condemned to death by the Council and Reformed Churches. Under the law of the times heresy was punishable by death at the enthusiastic behest of ecclesiastical chefs experienced in the gentle art of human cookery.

It was not until 1697 that William Wotton published his *Reflections upon ancient and modern learning*, in which he tells how Charles Bernard, a St. Bartholomew's Hospital surgeon, had called his attention to the passage in *Christianismi Restitutio* describing very clearly the pulmonary circulation; by that time the pulmonary circulation had been rediscovered independently by others.

Why should such a description happen to be in a theological treatise? Servetus introduced it in order to illustrate a point concerning the Holy Spirit.

We quote here the passage in question:

"The vital spirit—a compound of the inspired air with the most subtle portion of the blood . . . has . . . its source in the left ventricle of the heart, the lungs aiding most essentially in its production. . . It is engendered . . . by the mingling of the inspired air with the more subtle portion of the blood which the right ventricle of the heart communicates to the left. This communication, however, does not take place through the septum partition, or midwall of the heart, as commonly believed, but by . . . the blood being transmitted from the pulmonary artery to the pulmonary vein, by a lengthened passage through the lungs, in the course of which it is elaborated and becomes of a crimson colour. Mingled with the inspired air in this passage, and freed from fuliginous vapours by the act of expiration, the mixture being now complete in every respect, and the blood become a fit dwelling-place of the vital spirit, it is finally attracted by the diastole, and reaches the left ventricle of the heart."

Servetus had made his anatomical studies at Paris under Sylvius, was prosector to Guinther, and a fellow-student of Vesalius. He practiced at Charlevoix and at Vienne, near Lyons, after teaching for a short time in Paris.

On Sunday, November 1st, 1903, an Expiatory Monument was dedicated to Servetus at Champel, on the very spot where he was burnt, by the Reformed Churches of France and Switzerland. The spirit of modern Protestantism is in the inscription:

"Duteous and grateful followers of Calvin our great Reformer, yet condemning an error which was that of his age, and strongly attached to liberty of conscience according to the true principles of the Reformation and the Gospel, we have erected this expiatory monument.—October 27th, 1903."

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

THE TEETH OF THE MASAI

THE AUTHOR¹ examined the teeth of the Masai tribe in Kenya in an effort to contribute to the metabolic and inner secretory theories of the etiology of periodontal disease and to the question of natural immunity in dental caries.

The Masai are a pastoral people. The males of the tribe are divided into boys, warriors and elders. The boys become warriors, called Morans, after circumcision which is usually between the ages of 13 and 17. The warriors do no work; they stroll about the bush and live in a state of free love with immature girls. The Moran rarely lives with his family but lives with all the other Morans in large locations miles from their original homes. After a period of five to 10 years, he settles down, marries and starts the normal life of an elder. This is to herd cattle and look after the children.

The principal food of the Masai is milk, meat and blood, the latter obtained by bleeding their cattle. The protein consumption, therefore, is extremely high, while that of carbohydrate is negligible. The Masai have ample means with which to get maize meal and fresh vegetables, but these foodstuffs are known only to the few who have worked in town. It is impossible to induce the Masai to plant their own maize or vegetables near their huts. They offer excuse that they must move to other places with their cattle in case of dry weather.

These conservative, independent and listless people are the richest and most backward tribe of East Africa. Owing to unhygienic conditions and tribal customs, they are ravaged by diseases, especially venereal, and are dying out. The Masai men have good physiques and handsome features.

Data were accumulated from 408 Masai: The two lower central teeth, which are extracted in childhood, are not counted in the recorded data, nor are the third molars. Caries is negligible among the Masai, only 38 cavities being observed in 408 individuals. This rate (0.09 cavities per mouth) is the lowest reported in all races examined by scientists. Marginal gingivitis and salivary calculus have high rates as a result of lack of oral hygiene.

The relative caries immunity of the Masai appears to the author to be due to their protein diet, which is assumed to be rich in vitamins and mineral salts. Their teeth have hard use due to chewing coarse, tough meat.

¹ J. Schwartz, Nairobi, Kenya, E. Africa, in *Jl. Dental Research*, Feb.

ROENTGEN TREATMENT is as good a therapeutic measure in cases of leukemia as is known. With properly supervised treatment a patient can be maintained in a useful capacity. Much disagreement exists between hematologists

and radiologists as to whether or not roentgen therapy prolongs life. We do not make any statement.—W. C. Popp, in *Proc. Stac. Meet. Mayo Clinic*, Aug. 21st.

PEDIATRICS

E. L. KENDIG, M.D., *Editor*, Richmond, Va.

THE CONTROL OF DIARRHEA BY TOMATO POMACE

THERE are many reasons for believing that the tomato products can well or better replace those of the orange.

Any new agent successful in the therapy of diarrhea would be a valuable addition to the therapeutic armamentarium.

The most widely used inorganic preparations for diarrhea are represented by derivatives of opium, bismuth and kaolin. Pectin, particularly as scraped-apple powder, has been used frequently in the diarrhea of children. The author has employed tomato pomace with excellent results in the treatment of diarrhea in both adults and children for a five-year period.

In 1940, McCay and Smith of the Animal Nutrition Laboratory of Cornell University, reported the anti-diarrheal effect of tomato pomace in a series of dogs, minks and foxes, and suggested its trial in human subjects suffering from diarrhea.

The pomace used in this study was prepared by a process of tomato pulp dehydration. The pulverized product was ingested by a series of more than 100 patients at some time during a five-year period. The pomace was very pleasant to the taste and taken without difficulty. In the average case the dose was one tablespoonful in water on an average of every three hours; in severe cases of diarrhea a tablespoonful after each bowel movement until the stools returned to normal.

The tomato pomace was used in the treatment of diarrhea from a dozen causes, including idiopathic ulcerative colitis and diarrhea from nutritional deficiencies. In this series the average case had watery or mushy stools from three to 10 daily; occasionally 20 daily. Within 24 hours of the treatment with tomato pomace, many patients with diarrhea of simple cause experienced a cessation of the diarrhea, the stools were of normal consistency, form, color and odor; in cases of greater severity, frequently 48 hours elapsed before the diarrhea was completely arrested.

In cases with organic involvement of the intestinal tract such as ulcerative colitis, it was concluded the tomato pomace does not exhibit rapid control of pain or distress, nor of the diarrhea, although the severity of symptoms in many cases is definitely ameliorated.

¹ L. M. Morrison, Los Angles, in *Amer. Jl. Dig. Dis.*, June.

It was frequently observed that patients who received no relief from other anti-diarrheal medication responded promptly to the tomato pomace, with a return to normal stools and disappearance of symptoms.

Patients who are allergic to tomatoes obviously should not use the pomace.

It was noted that such gastric disturbances as pyrosis, epigastric distress, nausea and vomiting, belching, etc., were also frequently and promptly alleviated in many of the cases upon ingestion of the tomato pomace. The use of the tomato juice "cocktail" as an appetizer is also an indication of the pleasantly stimulating or refreshing effect of the tomato on the digestive tract.

ORTHOPEDIC SURGERY

JAMES H. CHERRY, M.D., *Editor*, Asheville, N. C.

TREATMENT OF COMPOUND FRACTURES

THE DIFFERENCE in the treatment of compound fractures in civilian practice and in military practice during wartime differs only in detail and not in principle. It was the directive of the Surgeon General of the United States Army during the past war that all compound fracture wounds received on the battlefields were to be treated as potentially infected, and were therefore not to be closed with primary suturing at any time. This dictum, undoubtedly, was a wise one, in that all battlefield casualties are subjected to the rigors of exposure to abnormal terrain and to weather exposure such as we do not ordinarily encounter in civilian life.

The routine in the Army was that a compound fracture was to be treated as follows: The wound was first to be given local attention by applying a sulfanilamide powder and then a clean dressing; the extremity to be splinted and the patient's pain to be lessened by morphine. If there was excess bleeding a tourniquet was applied. The patient was then to be transferred to a first-aid or clearing station and treated for shock as indicated. As soon as possible, usually within the first twenty-four hours, the patient was to be transferred to a field or evacuation hospital where a thorough debridement of the wound was to be carried out. Following this, the wound was irrigated thoroughly and loosely packed with vaseline gauze. No attempt was made at detailed reduction of the fracture at this time; however, the extremity was routinely encased in a suitable plaster cast to allow comfortable transportation. Penicillin by intramuscular injection was started usually within the first twenty-four hours and was carried out throughout the period of evacuation of the patient back to the overseas base hospital, which was usually with-

in ten days after the inception of the injury. The cast was then removed, and if the fracture involved any of the long bones of the extremities, skeletal traction was applied to permit more exact reduction. At the same time, a secondary closure of the wound was carried out if there was no infection present. If the wound was too large to close by secondary suturing, then early split skin grafting was carried out.

At no time was metal used as a means of internal fixation in these cases. The results of this management of compound fractures were excellent. For instance, in one hospital center in England, in which the author was the Orthopedic Consultant during a six-month period, five thousand compound fracture cases were evacuated back to the States. Of these cases, there were only three per cent in which there was a definite chronic osteomyelitis present at the time of evacuation. In ninety-six per cent of the cases, the soft-tissue wounds had been healed by means of secondary suturing or by split-skin grafting. Early closure of the soft-tissue wounds by the methods mentioned undoubtedly played a great role in reducing chronic infections of the bones.

In civilian practice it is still good judgment to employ the principle of not using metal for internal fixation in compound fracture cases unless one is certain that the chances of infection are at a minimum. It is a good rule to observe the routine principle that in any fracture in which there has been an open wound for six hours or more, it should be considered potentially infected, and the use of internal metal fixation should be avoided. However, in selected cases in which the wound is thoroughly cleaned and in which the patient is seen before six hours, this procedure might be considered; but this should be done by all means under good aseptic circumstances and the surgery should be supplemented by the post-operative administration of penicillin. As to the closure of the soft-tissue wounds, in most of these cases where internal metal fixation is not used, it would be wisest to attempt to close all wounds in which the cases are received within eighteen hours; however, the surgeon should be careful to excise all debris and dead tissue at the time of the initial surgery, and this is to be followed by thorough cleansing with tincture of green soap and water, and later warm saline solution. The author does not hesitate to instill 40 to 80 thousand units of dissolved penicillin locally. The patient should be kept under close observation and, if there is any indication, windows should be cut in the cast to allow observation of the healing of the wound. Any evidence of sepsis demands removal of sutures to allow free drainage, and local heat application should be carried out, along with penicillin in doses of 20,000

units every four hours for the first week, in most of these compound fracture cases, even if no infection occurs. It can be continued longer if there is evidence of sepsis or infection. If the pyogenic organisms involved are penicillin-resistant, then sulfa drugs may be used as a supplement.

All compound fracture cases should routinely receive a prophylactic dose of tetanus antitoxin, and in cases of extensive soft-tissue damage or of extreme contamination with dirt or feces, then tetanus antitoxin should be combined with a prophylactic dose of the mixed gas-gangrene serum. In the Army the tetanus-toxoid vaccine proved to be most efficient. There were only three cases of tetanus reported in 14 million men, and the author was informed that these were mitigated cases. Wholesale employment of tetanus toxoid would seem indicated in the future in civilian life.

In those cases developing gas gangrene or other anaerobic infections, casts should be immediately removed if present, and an extensive opening of the involved fascial and muscular planes carried out surgically. The extremity should then be put up in traction by means of Kirschner wires or pins and placed on a splint that will allow free access to the wounds. Intensive serum therapy should be started at once supplemented by penicillin and repeated transfusions. X-ray therapy to the infected area should be given simultaneously. If this regimen does not improve the situation, then amputation can be done, using the guillotine method. However, it has been the experience of the author and many other surgeons that, if the treatment here outlined is carried out early, amputation can be avoided and very few lives will be lost.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

PENICILLIN LOZENGES FOR VINCENT'S STOMATITIS

TWO MEMBERS of the Navy Dental Corps give an encouraging recommendation as to a troublesome condition.

The method of treatment is first to spray the mouth with penicillin solution, 250 units per c.c., and then give the patient 15 or 20 lozenges with instructions to place one between the cheek and gum and allow it to dissolve in the saliva. It takes an hour or more for the lozenge to dissolve, and the patient is instructed to replace it immediately. He is told to place a lozenge in the mouth immediately before retiring, and to chew it so as to break it up before going to sleep. This will load the saliva with active penicillin and still prevent possible aspiration of the lozenge during sleep.

1. L. W. Strong, Jr., & E. W. Willett, U.S.N., Dental Corps, in *U. S. Naval Med. Bull.*, 46:353, '46.

the patient awakens during the night another lozenge is placed in the mouth and chewed. The flow of saliva is slower during sleep; therefore the penicillin-saturated saliva will remain in the mouth for some time. The patient is given more lozenges the next day, and his mouth sprayed with the penicillin solution to cleanse of surface debris. He is also instructed not to brush his teeth or gums.

The lozenges might be routinely used when surgery is attempted in all but very healthy mouths.

After the acute infection has been controlled, all procedures should be taken to remove breeding spots of bacteria in every periodontal pocket, or in other cervices in the mouth.

Sore throats were relieved in a short time by the use of the lozenges. Under refrigeration the lozenge will remain effective for many weeks.

This is a simple and effective way to control cases of Vincent's infection not severe enough to warrant injection of the drug. Most cases require only from 30,000 to 50,000 units of the drug.

PROCAINE INFILTRATION IN THE TREATMENT OF ACUTE SPRAINS

WE BELIEVE in the treatment for sprains which is set forth here,¹ so call it to your attention on the principle of iteration and reiteration.

The maximum points of tenderness about the ankle joint are carefully determined and marked with dye. It is important to place the foot in various positions to find all the points requiring infiltration, and these areas can be very sharply localized. The skin was prepared with an antiseptic solution and the injection carried out under aseptic conditions.

Through a skin wheal using a long intramuscular needle all tender areas were thoroughly infiltrated usually using 20 c.c. of 1% procaine solution (without adrenalin) at each site. It has not been necessary to introduce the procaine into any hematoma which may be present. On completion of the injections the ankle is gently massaged and manipulation of the joint is undertaken. The foot is carried into all positions and if any discomfort persists the injection is repeated. Satisfactory result cannot be expected for those patients who do not obtain complete relief from pain on manipulation of the foot after injection.

No supportive dressings have been used other than a band-aide over the injection sites. Patients were instructed to replace their shoes and lace tightly; and observed while they walked, stooped and carried out various exercises, putting the ankle into different positions. With satisfactory injection the patient experiences immediate and complete relief of pain.

1. C. W. McLaughlin, Jr., Med. Corps, U.S.N.R., in *Military Surg.*, TGSDEG, '45.

Patients were always advised to keep active for several hours after treatment, carrying out their full duties and being on their feet as much as possible. Light duty chits were never supplied. It was always explained that after 12 hours some stiffness or discomfort was anticipated if the patient was off his feet for any period of time. This usually disappears promptly on a resumption of full activity.

The patients were ordered to report for reexamination after 24 hours. Further injections were made if symptoms had recurred.

Maximum results are to be expected only in cases seen within the first 24 hours after injury.

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

DETAILS OF MANAGEMENT OF THE SYPHILITIC PREGNANT WOMAN

CONGENITAL syphilis, it is well known, can all but be prevented by treatment of the syphilitic pregnant woman, despite the fact that detection of syphilis in the pregnant woman is not always easy because of the few symptoms of the disease during pregnancy.

Almost all syphilis in pregnancy is discovered by the routine use of the blood serologic tests. A test early in pregnancy will detect anteconceptionally acquired syphilis, but a repetition of the test made in the 7th to 8th month will be necessary to detect infections occurring during the early months of pregnancy. Occasionally there are false positive blood reactions in pregnancy; there is just as much likelihood of false negative reactions. Blood tests are just as reliable in the pregnant as in others. It is recommended that blood tests be made on every pregnant woman early in the pregnancy and that if negative they be repeated (at term if not in the last months of the pregnancy).

Beerman and Ingraham¹ give excellent, clear-cut directions for management.

The more recent the infection in the mother, the more liable is the child to be syphilitic. Treatment begun at the fourth month of pregnancy and continuing at weekly intervals to total of not less than 4 Gm. of neocarboxyphenamine, with or without bismuth subsalicylate, constitutes optimal conditions for the prevention of prenatal syphilis.

This type of treatment may be supplanted, in early acquired infections at least by 2.4 million Oxford units of sodium penicillin intramuscularly given 40,000 units every three hours for eight or nine days. The mother is apparently cured of her disease by this single short course of therapy.

Pregnant women tolerate arsenical and heavy metal treatment well, but occasionally show serious

reactions to the arsenicals, and treatment should be adjusted accordingly. A urine examination and a blood pressure determination are in order before each arsenical injection. In the arsenic-bismuth regimen treatment should be alternating and continuous and be so arranged that the predelivery therapy be arsenical. If treatment is begun after the 5th month, it should start with an arsenical.

Examination of the cerebrospinal fluid wherever necessary should be deferred. In all of our services the test is made just before discharge from the maternity hospital.

GYNECOLOGY

ROBERT T. FERGUSON, M.D., *Editor*, Charlotte, N. C.

MENSTRUAL DYSFUNCTIONS

PSYCHOGENIC amenorrhea usually responds to psychotherapy. This may vary from simple reassurance to psychoanalysis. Those cases in which a change of environment has been the causative factor will spontaneously become normal sooner or later. The commonest cause of delay in menses is anxiety over the possibility of pregnancy. This and other types of anxiety or psychic disturbance which cause a delay in menses respond, says Freed,¹ to the injection of prostigmine methylsulfate. When the patient with delayed menses fails to respond to three daily injections of prostigmine methylsulfate, a pregnancy most likely exists. Those patients who do respond are rarely pregnant.

The chief error in this test lies in those patients who, failing to respond, may have a major disturbance other than pregnancy. An animal test for pregnancy is often necessary for a differential diagnosis.

It is essential to restore the nutritional condition of the patient to normal by proper food habits.

If the patient shows a smooth, shiny or red tongue, fissures in the angle of the mouth, or neuritis, she should be given vitamin B complex—at least a daily intake of 4 mg. of thiamine, 4 mg. of riboflavin and 60 mg. of nicotine acid, together with other factors from brewer's yeast or liver. It may take several months after the establishment of proper dietary therapy before the menses return.

Obesity with amenorrhea demands a reducing diet. Benzedrine sulfate, 5 mg. t.i.d., 30 to 60 minutes before meals is a valuable drug in curbing appetite and eliminating "nervous eating."

The gonadotropin hormone from pregnant mare serum and other anterior pituitary hormones have a stimulating effect on the human ovary and upon repeated injection may be able to induce ovarian activity and uterine bleeding. The employment of

¹ Herman Beerman & N. R. Ingraham, Jr., Philadelphia, in *Med. Clin. of N. Amer.*, Nov., 1945.

L. S. C. Freed, San Francisco, in *West. Jl. Surg., Obs. & Gynec.*, Jan.

gonadotropin in treating amenorrhea due to ovarian failure is not dependable.

Estrogen therapy is the mainstay in the treatment of amenorrhea. In the hypohormonal states, a sufficient amount of estrogen therapy will induce uterine bleeding; dosage, on the average, 10 to 30 mg. of estrogen over a 20-day period will result in bleeding after an 8- to 14-day period. Oral estrogen such as stilbestrol is fully capable of inducing this reaction. Other oral estrogens equally effective when employed in the proper dose are hexestrol, benzestrol, estrone, estrone sulfate or Premarin, estradiol and ethinyl estradiol.

In the author's experience the following ratios of potencies have been obtained. With 1 mg. diethylstilbestrol as a standard, the weight of the following compounds are equivalent: hexestrol, 5 mg.; benzestrol, 5 mg.; estrone, 2 mg.; estrone sulfate, 1.25 mg.; estradiol, 1 mg.; and ethinyl estradiol, 0.10 mg.

Some patients require five to ten times as much estrogen as others in order to produce uterine bleeding. If 10 mg. or 20 mg. of stilbestrol does not induce bleeding, 40 to 50 mg. should be administered. After an episode of bleeding, a second course of estrogen should be instituted, and this often requires considerably less estrogen. A third course should follow, and then the patient is permitted to go without therapy for several months. In 30% of the cases, normal menses will follow spontaneously. There is little hope for the others, except to investigate further as to the possible surgical treatment for removal of cysts, fibrous capsules of the ovaries, or other anatomic barriers to ovarian growth and function.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

ETHINYL ESTRADIOL BY MOUTH IN THE MENOPAUSE

FEW of the articles we read dealing with the treatment of symptoms incident to the menopause are very definite in their statements of choice of remedial agent, dosage, or what may be reasonably expected from treatment.

Weishader and Fifer¹ report statistically on results in their hands of the administration of ethinyl estradiol by mouth for the relief of such symptoms.

The series studied consisted of 53 patients, aged from 34 to 51, suffering from climacteric symptoms—27 natural, 21 surgical, 5 radiologic menopause. In 15 patients bleeding which still persisted ranged from scant to very excessive menorrhoea. Almost all patients complained of hot flushes, diaphoresis, tingling in extremities. In all cases

¹ Hans Weishader & Wm. Fifer, New York, in *Amer. Jt. Obs. & Gyne.*, 51:75, 1946.

excessive bleeding was ruled out by means of diagnostic curettage.

Each patient was started on 0.05 mg. of ethinyl estradiol a day, given in two doses, and this whenever indicated was increased after a few days to a daily total of 0.1 mg. and sometimes to a daily total of 0.15 mg. In general, before shifting to maintenance dosage, the maximum therapeutic dose employed in a given patient was kept up for three or four weeks. Daily dosage was then reduced, in many cases to as little as 0.025 mg. which maintained the patient in comfort.

Satisfactory relief was afforded in all cases within six to nine days: 43 women showed complete relief and 10 were markedly benefited. Twelve patients, each of whom received a total dosage of 3.15 mg., given over 21 days, had withdrawal bleeding when the dosage was reduced. In eight cases there was withdrawal bleeding after cessation of medication. As for the total requirements, those patients who still continued to menstruate, although climacteric symptoms had begun, needed the smallest total dosage. For those who had undergone natural menopause, the needs were somewhat greater; in cases of artificial menopause, still a bit higher. In all groups the requirements were minute as compared with other oral estrogens.

If symptoms are not very severe, satisfactory response is obtained with a daily dose of 0.05 mg. of the drug.

DERMATOLOGY

J. LAMAR CALLAWAY, M.D., *Editor*, Durham, N. C.

TREATMENT OF CREEPING ERUPTION (LARVA MIGRANS)

CREEPING ERUPTION is an acute, inflammatory reaction of the skin due to larvae of the cat or dog hookworm. In 1926 Dr. Kirby Smith and his associates identified the larvae as *Ancylostoma braziliense*.

The prevalence of creeping eruption seems to be on the increase, whereas a few years ago most patients were found along the seacoast, they are now being seen more and more frequently in the interior.

Creeping eruption usually begins as a small papule from which the larva burrows through the skin much as a mole travels through the ground. A serpiginous course is pursued with an advance varying from one-half to four or five centimeters in twenty-four hours. This burrowing is accompanied by an itching which results in much scratching, secondary infection, and sometimes urticaria. The number of lesions may vary from one to hundreds.

The diagnosis of creeping eruption is usually easily made because of the appearance of the lesions and the usual history of exposure to wet sand. However, scabies, insect bites, dermatomycoses, and other dermatoses may enter into the differential diagnosis. An excellent aid in establishing the diagnosis is to partially freeze a suspected lesion. If the larva is present, it will usually move after partial freezing.

A variety of local treatments have been used, the commonest of which is freezing the advancing border with ethyl chloride. It is important to freeze an area one or two centimeters in diameter around the advancing border. Carbon dioxide snow or dry ice is also used in a similar fashion, but where there are many lesions, particularly in children, individual freezing of lesions becomes quite a problem. The intramuscular injection of fudadin and neostibosan are often valuable therapeutic agents. Mapharsen is another systemic treatment worth a trial.

Onion poultices left on for twenty-four hours, and a variety of local applications such as iodine, chloroform, chrysarobinum, etc., are also helpful.

Recently I have found the use of 1% gentian violet in 10% alcohol solution to be extremely helpful in the management of this condition, using a syringe with a hypodermic needle which is inserted into the burrow, and with a gentle pressure the serous fluid extruded from the burrow is then filled with the gentian violet solution. The gentian violet in 1% strength is not irritating, does not leave any pigmentation, helps control secondary infection that may be present, and gives almost immediate relief from itching. In our hands this has been another simple but gratifying form of therapy for this annoying condition.

The paper by Hailey, together with the discussion by Hitch, Thompson, Smith, Lancaster, Andrews, Van Studdiford and Stee, in the *Southern Medical Journal* for May, 1946, is well's careful reading.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

THE PLACE OF PENICILLIN IN THE TREATMENT OF SYPHILIS

SHEPPE¹ reports on the study and treatment of 308 patients with syphilis; 82 of these cases were classified as early—presenting either primary or secondary lesions; 214 cases were classified as late. These included (1) patients who exhibited lesions and (2) those who had no visible lesions but a positive blood reaction. The remaining seven cases presented neurological symptoms and spinal fluid findings supporting a diagnosis of neurosyphilis.

The dosage used in all these cases except those of neurosyphilis was 2,400,000 units, given in doses

¹ W. M. Sheppe, Wheeling, in *W. Va. Med. J.*, Sept.

of 40,000 units intramuscularly every three hours; patients with neurosyphilis had 7,000,000 units given in the same dosage and at the same intervals.

Extremely large doses, given either in individual injections or by increasing the number of injections, apparently do not improve the results to be obtained by giving a total dose of 2,400,000 units divided into 60 equal doses.

The surprising effect produced on gummatous bone, skin, and mucous membranes, which are readily visible, indicates that when such a dosage is employed an efficient level of penicillin is, in fact, reached and maintained in the tissues themselves. Recent work, including that carried on at Kanawha Valley Medical Center in Charleston, has indicated that the addition of even a small number of injections of mapharsen and/or bismuth greatly increases the efficiency of the penicillin treatment.

Recently preparations have appeared of mixtures of peanut oil with cholesterol derivatives, which become semisolid on slight heating, and apparently are absorbed at a rather regular rate.

In asymptomatic cases presenting a positive spinal fluid and no other objective evidence of neurosyphilis, the results with penicillin have been gratifying, especially when its administration is accompanied by three spinal drainages. The only criterion of cure is the disappearance of the abnormal changes in the spinal fluid.

In tabes there is usually a gain of weight on penicillin treatment and a decrease of leg pains. Ataxia, and bladder and gastric crises are not favorably affected. The results in paretics have not been favorable.

The management of individuals with a positive Wassermann which remains unchanged, in spite of thorough treatment, many of them showing nothing except the positive blood reaction and many having no history of venereal disease of any kind, is a baffling problem. It has been Sheppe's policy to carry out at least one course of routine treatment, but ordinarily there has been no, or very temporary, change in their blood reaction. The question often has arisen in his mind whether these people have syphilis or a false positive blood test. He believes we must assume that these people have syphilis. Penicillin has proved the most effective agent, the patient is exposed to no real risk and the length of time involved is very small.

TISTOSTERONE PROPIONATE IN THE TREATMENT OF SENILE PRURITUS

Testosterone propionate in 10-mg. injections were given every five days for 10 to 20 injections. After the pruritus was under control the treatment intervals were increased to three to four weeks. The agent is contraindicated in malignancy of the prostate. For this reason the prostate (W. L. Dobes et al., Atlanta, in *Jl. of Clin. Endocrinology*, Dec.)

gland of each patient should be examined prior to and during testosterone therapy.

Of the 10 patients treated, seven responded favorably, two improved; and one failed to show any alleviation of the condition.

In one case of slow response to 10-mg. doses, response was immediate to a 25-mg. dose. In another case, although pellagra was present, the skin changes did not respond to liver and nicotinic acid until testosterone was used.

TREATMENT OF VINCENT'S ANGINA BY BISMUTH SUBSALICYLATE IN OIL

BECAUSE the spirochete is an anaerobe, drugs releasing oxygen have been the most popular used. The treatment is long and uncertain with these preparations. Many have used salvarsan topically and neosalvarsan intravenously in 0.15 to 0.30 gram doses. Topically, the treatment is uncertain. By the intravenous method usually one or two treatments suffice, but susceptibility of non-leucitic patients to this drug is very high and its use a bit dangerous. Penicillin injections of 20,000 units up to a total of 200,000 units over several days have been used with success.

Intramuscular bismuth injections, also, have been used advantageously. Under their proper use, in the hands of Grossman,¹ the lesions in the throat melt away; usually within 24 hours of the first injection the throat feels better and so does the patient. The lesion may already have started to subside or it may appear the same, but in another 12 to 24 hours it is resolving and usually a second injection given in 48 to 72 hours is all that is needed to effect a cure although occasionally a third injection in a similar interval is necessary to complete the cure.

The drug best tolerated is bismuth subsalicylate in oil given deeply into the buttocks in the upper, outer quadrant, using a 2-inch 20-gauge needle driven in to the hilt, and without any bismuth on the needle to be tracked into needle pathway, the treatment is practically painless. With a shorter needle there may be considerable discomfort from the injections. The first dose is 1.5 c.c.; each c.c. of the preparation contains 2 grains of the drug, thus making the first dose 3 grains of the subsalicylate of bismuth; the second and subsequent doses are 2 c.c. each (4 grains of the active drug). The treatments are given in alternate buttocks. It is essential to draw back on the plunger of the syringe to see if blood rises in the syringe; if blood appears, the needle is pulled back slightly until bloodless area is found and then the drug is injected. It is rare to penetrate a blood vessel by this procedure, but it is wise to be cautious inasmuch as injection of this oily substance into the blood stream is dangerous.

Of 150 cases treated with this preparation 10% required three injections before the lesions dis-

appeared completely; the others required only two injections.

Certainly this is the best report to date on treatment of Vincent's infection. Let us all give it a trial.

MANAGEMENT OF DERMATOPHYTOSIS

FUNGOUS DISEASE of the feet, and at times the hands or nails or both, due to *Trichophyton gypseum* or to *T. purpureum* or to *Epidermophyton inguinale*, in its initial stage is apt to involve first the areas between the toes, although the last mentioned fungus often invades the skin of the groin and inner thighs independently of the feet. With *T. gypseum*, there is frequent and unpredictable spread to the soles, palms and sides of fingers, the lesions being vesicopustules. Secondary eczematous changes readily occur. Nail changes are usually insignificant.

With *T. purpureum* also the soles and palms are the chief sites, but many other parts of the body may be involved. The affected skin is dull-red, edematous and scaly. The toe nails and occasionally the finger nails may share the infection. The commonest cause of secondary rash is over-treatment.

Management as outlined by Lewis and Hopper¹ along these lines:

If the trichophytin test is negative, one may rule out dermatophytid. If the direct mount and cultures are negative, patch tests to shoe leather or to socks might establish a definite local cause.

In cases of eczematized dermatophytosis almost nothing can be expected from fungicides. Wet compresses or foot baths, using hypertonic saline or a mixture of boric acid and saline are often well tolerated and soothing. Then borated talc, zinc-starch paste and x-ray therapy may be successively used. In severe cases, bed rest is advisable. Soap is usually interdicted; cleansing should be by sulfonated oil or plain mineral oil. Relief from the intolerable itching may be temporarily obtained by digital pressure.

Lymphangitis occurs infrequently and may result from scratching or otherwise infecting open lesions or (as when recurrent) be contiguous to a focus between the toes. Good results were formerly achieved for the most part by having the patient stay in bed and by the local application of a hot, wet boric saline pack. The advent of sulfonamides and later of penicillin added additional useful weapons.

If *T. purpureum* is discovered, even when the involved skin is limited to the interdigital webs of the feet, or to one nail, a vigorous and sustained effort must be initiated. For the skin lesions keratolytic drugs such as resorcin and salicylic acid

¹ H. D. Grossman, Chicago, in *Ill. Med. J.*, Jan., Mar.

and fungicides such as sulphur, benzoic acid, chrysarobin and thymol may be incorporated into ointments and applied vigorously to the affected skin. As soon as the patient's tolerance is established, the concentration of the drugs may be increased and later additional drugs added. Infection of the nail is best treated by partial evulsion attained by the slicing away of the diseased portion with a scalpel, followed by the local application of medicaments containing drugs mentioned above and often covered with adhesive plaster. The widespread *T. purpureum* infection of months' or years' duration has a rather hopeless prognosis.

Of the subacute variety these clinicians say confidently that ointment containing 3% salicylic acid and 6% sulphur precipitate will be curative within two or three weeks.

Keeney et al.² recommend the use of 10% sodium caprylate ointment as far the best treatment of dermatomycosis of the feet. The ointment is applied under, over, and between the toes, and over the soles of the feet every evening; and removed every morning with soap and water or with a towel. Reexamination is to be made at weekly intervals for six weeks after the institution of therapy. At these times, careful clinical notes were made in regard to the presence of intertrigo, maceration, scaling, denudation and dyshidrosis.

After two weeks of treatment the positive slides were 27.5%: after three weeks 13.9%: after four weeks 9.3%.

After five and six weeks of treatment there were 14.2 and 12.8% positive slides, respectively, in the treated group—a finding at first disappointing. We questioned these patients carefully and they all admitted using the ointment nightly for two weeks and subsequently irregularly. In view of this the results seemed remarkably good.

The sodium caprylate ointment in addition to its remarkable fungistatic activity, possesses antibacterial powers against *Staphylococcus aureus* and beta hemolytic streptococcus.

² E. L. Keeney et al., *Bul Johns Hopkins Hosp.*, Dec., '45.

BEAUMONT'S PHILOSOPHY SHORTLY BEFORE HIS DEATH OR, E. Schlueter, in *Mo. Medical Assn.*, Aug.)

Myself and wife, not unlike "John Anderson, my Jo," have climbed the hill o' life together, and many a canty day we've had wi' one another. But now we maun totter down life's ebbing wane in peaceful quiet ease and competence, with just so much of selfishness and social sympathy as to be satisfied with ourselves, our children and friends, caring little for the formalities, follies and fashions of the present age, the hustling turmoils, vain shows, pride and pageantry of modern society, or the jealousies and envy of mean or malicious, sure of rectitude of purpose and unconscious of wrong intentions to the injury of any human being, boastful of nothing, cheerfully submissive to the duress of fate, the freaks of fortune or the last fiat of nature. Come when it may, we only ask God's blessings on our frosty brows, and hand in hand we'll go and sleep together.

CLINIC

Conducted by
FREDERICK R. TAYLOR, B.S., M.D., F.A.C.P.,
High Point, N. C.

I INTEND to overstep my bounds this month and, instead of the usual clinic, write this copy of a letter just sent to one of the leading drug houses of the country, as food for thought.

Lederle Laboratories, Inc.,
Gentlemen:

Your announcement just came telling of your change of name next Sept. 1st. Except for the greatly increased length of it, naturally I have have no comment. The presumption is that you have adopted the very lengthy name for reasons good and sufficient to yourselves that are no business of mine. Certain other changes in name are, however, I think, my business and the business of every other doctor, and that is what this letter is really about.

For over thirty years, I have fought the proprietary evil, but insisted that there is also a proprietary good. The evil is mostly in useless, irrational, or occasionally dangerous preparations, or something objectionable in some other way about the product itself, or excessive cost. Proprietary names seem inevitable at times for special mixtures or combinations of a rational sort, or unique drugs, and not infrequently I use some of the best of them. Occasionally, however, mere nomenclature becomes a heavy burden, and recently it seems to me that Lederle has added sadly to this burden. For almost all of my 31 years of practice I have taken the position that Lederle is one of a few great houses, second to none, in the drug manufacturing and distributing business. It has, along with a few others, the "priceless ingredient" so marvelously advertised by the great house of E. R. Squibb & Sons, the finest piece of advertising of any line of goods I have ever seen, to my mind. As I say, I have stood for Lederle as one of the really great drug concerns of America, which means of the world. Now, however, I find a growing tendency to overload the burden of nomenclature. Do you advertise penicillin? No, *Lederillin*, if you please! Thiouracil? No, *Deracil*, I am surprised not to have had notice of your discontinuing sulfadiazine and putting Lederdiazine in its place! If every manufacturer and distributor put a special pet name on a single drug of widely proved merit, it might take a 20-volume pharmacology to tell us what it was all about! Then we would probably lose all interest in pharmacology and in the names of drugs other than their genuine names. A proprietary name may be superior, because shorter, to an official one. "Acetylsalicylic acid" seems a waste of letters when "aspirin" means the same

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

AN AMERICAN PLAN

THE TAFTS of Ohio have been somebodies ever since Cincinnati was in Ohio County of the State of Virginia. There has never been a nobody among them. It is a lot to the credit of that great, great man, William Howard Taft, that he did not succeed himself in the Presidency. He was a lot bigger than the office, as it had come to be filled.

Just as the father always spoke out like a man, and an intelligent, just man, on all important questions: so the son¹ speaks out with courage, intelligence and vigor.

Here follows Senator Taft's frank, plain state-

Primary public responsibility for the health of the people should rest on the states and on local governments. This is most important to those of us who are concerned with freedom in this country. Medical care must be a local and state concern. Federal funds are necessary only to aid the lower-income groups of the population and furnish financial assistance to states and local governments to supplement the limited funds available for help.

This plan is an American plan based on assistance to the needy, liberty to the individual, and a free medical profession. Only by retaining such freedom can we hope to go forward with the progress in medicine and health for which America has been noted. That is why Senators J. H. Ball (Minn.), H. A. Smith (N. J.), and I have introduced a health bill which proceeds on a fundamentally different philosophy from that of the two social insurance bills now before Congress which were introduced by Senators Wagner and Murray, and Representative Dingell.

Our bill proposes that all the scattered health activities of the Federal Government be put together in a new independent National Health Agency to be headed by a high-ranking physician. It is based on the extension of Federal aid to the states to enable them to give comprehensive hospital and medical service to every American unable to pay the full cost of such service.

Federal aid amounting to \$200,000,000 a year for general medical and surgical service, and \$20,000,000 a year for dental service is authorized by the bill, but with complete control of administration under state and local governments.

The new measure encourages the formation of voluntary health insurance funds, and also provides money for research, and grants-in-aid for research. It is intended to replace entirely the Federal compulsory sickness insurance program proposed by Senators Murray and Wagner and Representative Dingell.

Our bill proposes that as a condition of obtain-

¹. In *Wisc. Med. Jl.*, July.

ing Federal aid, each state shall make a comprehensive survey of the health activities throughout the state, both public and private, urban and rural, with special reference to the medical care provided for the lower-income groups. Based on this survey, the state must propose a plan by which hospital service and medical service in hospitals and clinics are to be made available to all families and individuals unable to pay for such services. The hospital bill will promote the construction of rural hospitals, and will add medical service.

The bill further provides that a state may use Federal money, together with its own funds, to encourage the formation of voluntary health insurance funds by paying to such funds the premiums required for those low-income families and individuals unable to pay for insurance themselves. A state plan may thus provide medical care directly, or through a fund such as the one which has been successfully operated in Michigan.

The encouragement of such voluntary funds will also make available, to those middle-income families who desire it, insurance against serious illness, the expense of which they find impossible to meet in a single year.

The bill also requires state plans to provide for the periodic medical and dental examination of all children in public and private, primary and secondary schools. Lack of such examination led to neglect of many of the remediable defects which were responsible for the high rejection rate in the draft. This examination will be without charge, but free treatment will be given only to those whose families are unable to pay for it, or for insurance which might cover it.

Also, under the new proposal, any Federal employee who wishes to join a voluntary health insurance fund may direct the government to deduct the necessary sum from his pay and apply it directly to the fund. The government today is the only employer who will not accept such direction.

The Wagner-Murray-Dingell bill endorsed by President Truman proposes Federal compulsory sickness insurance. All classes of the population would have to pay for this insurance, in the form of payroll taxes or otherwise, so that the huge sum of three to five billion dollars a year would pour into Washington. The government would then have to set up a vast administrative organization with thousands of personnel to police the insurance system and to supervise and pay all the doctors in the United States. A Federal bureau could tell everyone when he could have a doctor, how often the doctor would call, and whether the patient could have a specialist. *Every detail of medical service would be regulated from Washington.*

Our proposal follows the theory that the United States already has a comprehensive medical service

as good as any in the world, but that there are gaps in that service, particularly in reaching the lower-income groups. Our bill encourages and assists every state to fill up these gaps, building upon the existing foundation. Free service will be furnished to those unable to pay. Voluntary health insurance plans will be encouraged so that health insurance may be available to the great numbers of those who desire it, without forcing any one, patient or doctor, to abandon his present practices.

Above all, the bill places responsibility for the health of the people on the states and on local governments where it belongs.

Senator Taft covers the subject. He shows up the chicanery, the craftiness, the rank injustice, the indecency, and the plain ignorance of the plan promulgated by the third (and least) triumvirate—Wagner, Murray, Dingell—two of this remarkable trio born outside the U. S. and came over to, along with the third born on the border (at Detroit, metropolis of the New Deal's special pets, the so-called "Labor" Unionists); to ram the politico-economic theories of Hitler, Mussolini and Stalin down the throats of the liberty-loving, self-supporting, respectable fraction of the people of these United States.

It's a great pity that my dear, wise, good old friend, Dr. Cyrus Thompson, is not alive to lead his fellow-doctors and others of intelligence and honesty to enlist under the banner of Charles P. Taft.

METROPOLITAN LIFE INSURANCE COMPANY'S PROGRAM ON CARE OF THE HEART

During the past third of a century, improvement in mortality from heart disease was greatest among the young, decreasing progressively with advance in age. The death rate from diseases of the heart and arteries, corrected for the ageing of the population, dropped 30 per cent between 1911-15 and 1940-44, according to Metropolitan's experience with its industrial policyholders. This reduction was 37 per cent for white females, 25 per cent for white males.

Effort is now being put forth to teach the public what is known about prevention, early recognition, and care of cardiac lesions. The Metropolitan Life Insurance Company is conducting a special campaign on heart disease during the fall and winter months. At that time, the company's more than 20,000 field representatives, working with official and voluntary agencies, will reach the homes of millions of policyholders with a recently published pamphlet, *Your Heart*, developed in co-operation with the American Heart Association. A lay educational film on heart disease is also being prepared. Distribution will be made to physicians of a packet in which will be included material of

special interest to doctors, and a scientific exhibit on heart disease, first shown at the A. M. A. meeting in San Francisco, is available for State and local professional meetings.

NEWS

NEW SUPERINTENDENT OF VIRGINIA'S EASTERN STATE HOSPITAL

Appointment of Dr. Granville L. Jones, of Marlboro, N. J., as superintendent of Eastern State Hospital, at Williamsburg, has been announced by Dr. Joseph E. Barrett, State Commissioner of Mental Hygiene and Hospitals. Dr. Barrett was superintendent of the Williamsburg institution when he was appointed commissioner by Governor Tuck last January to succeed the late Dr. Hugh Henry. Since that time he has served in the dual capacity of commissioner-superintendent, dividing his time between his Richmond office and the hospital.

During the past 15 years Dr. Jones has been practicing psychiatry at the New Jersey State Hospital at Marlboro, first in mental hygiene work and later as clinical director. He is a native of Blooming Grove, Texas; was educated at Texas Christian University, and received his medical degree from the University of Arkansas in 1928. For a brief period he served on the staff of the Arkansas State Hospital at Little Rock and then went to St. Elizabeth's Hospital in Washington, where he remained two years under the late Dr. William A. White.

Dr. Jones is a member of the American Medical Association, a fellow of the American Psychiatric Association, a diplomate of the American Board of Psychiatry and Neurology and an associate of the American College of Physicians. During the past year he has served as president of the Monmouth County, New Jersey, Medical Society and, in that capacity, concluded the first working agreement with the Veterans Administration for an effective method of procuring medical care for veterans, a plan which has received national attention.

Dr. Jones is a veteran of World War I and took an active interest in civilian defense affairs during World War II. He is the author of numerous articles for medical journals and is widely known for his talks to community groups medical societies and other organizations on psychiatric subjects.

DR. F. M. SIMMONS PATTERSON has been appointed surgeon-in-chief of the new Scotland County Memorial Hospital at Laurinburg. He is the son of Dr. Joseph F. Patterson, the well-known surgeon of New Bern.

DR. ROBERT L. MOORE, of Columbia, S. C., has become associated with Dr. John S. Lewis, a surgeon and general practitioner, in Hickory, N. C.

DR. J. RUFUS BRATTON has opened his offices in Rock Hill, S. C., for the practice of diseases of infants and children.

DR. J. T. TAYLOR has been appointed Health Officer of Roanoke Rapids, N. C., to succeed DR. W. P. SPEAS, resigned.

DR. WINFIELD EARL BROWN, a member of the medical staff of the State Hospital at Morganton since 1930, has resigned. He goes to Memphis to pursue graduate work in medicine.

DR. FRANK LIVINGSTON WHELPLEY has resigned, effective October 1st, as Superintendent of the State Hospital for Negroes, Goldsboro, N. C. Dr. Whelpley came to the Hospital directly from his home in St. Louis 28 years ago and his membership on the Medical Staff has been continuous. For the last eight years he has been Superintendent. Until his successor is elected, the Superintendency will be attended to by DR. DAVID A. YOUNG, General Superintendent of the State Hospitals, with offices in Raleigh.

MEDICAL COLLEGE OF VIRGINIA

The School of Pharmacy will have the largest enrollment in 1946-47 in the history of the college, a total of 153 students, 50 of whom will be freshmen, as compared to 114 last year. In addition to the 50 freshmen the school will take back all former students who are released from the armed services during the year.

The freshman class, the largest on record, is composed of 37 veterans, seven high school graduates, and six girls.

MARRIED

Dr. David Clyde Yeung, of Salisbury, N. C., and Miss Lois Rogerson, of Robersonville, N. C., were married on September 1st.

Dr. Seymour S. Rogers, of New York, and Miss Dorothy Steward, of Henderson, N. C., were married on September 3rd.

Mrs. Robert Randolph Parker and Dr. Mason Romaine were married September 7th, in St. Paul's Episcopal Church in Petersburg. The ceremony was performed in the presence of the immediate families.

Upon the return from their wedding trip, Dr. and Mrs. Romaine will make their home in Petersburg.

Miss Hattie Cridlin Taylor, daughter of the late Mr. and Mrs. Charles A. Taylor, Sr., of Urbanna, and Dr. Freeland Magruder, of Portsmouth, July 17th, at the home of the bride.

DIED

Dr. J. McCaw Tompkins, 63, widely known physician and a member of one of Richmond's oldest families, died August 23d of a heart attack at his home. He had been in his usual state of health until he was stricken. He was president of the Johnston-Willis Sanatorium, Inc., which corporation operates the Johnston-Willis Hospital.

Dr. Tompkins was the son of Dr. Christopher Tompkins, long-time dean of the Faculty of the Medical College of Virginia; grandson of Dr. James B. McCaw; and nephew of Major Gen. Walter B. McCaw, M.C., A.U.S.

Dr. Tompkins was closely identified with the Johnston-Wilis staff from its inception, and enjoyed a wide popularity as internist and teacher.

Dr. James Luther Ward, 67, for almost half a century a practicing physician in Greenwood County (S. C.), died at his home on May 10th. A graduate of the Medical College of the University of Georgia in the class of 1898, he is survived by one son, Dr. James L. Ward, Jr., of Greenwood.

Dr. Herbert G. Perry, of Louisburg, N. C., died of a heart attack on September 3rd, at the age of 57. He was a graduate of the College of Physicians and Surgeons, Baltimore, in 1915.

Dr. D. A. Stanton, former mayor and city councilman of High Point, N. C., died September 6th at his residence after a long illness. He was 87 years of age and was one of High Point's most prominent surgeons and physicians for more than half a century.

Survivors include two sons, Dr. T. M. Stanton and David L. Stanton, of High Point, and seven grandchildren.

BOOKS

ALLERGY. by ERICH UREACH, M.D., Chief of Allergy Department, Jewish Hospital, Philadelphia; Associate in Dermatology, University of Pennsylvania; and PHILIP M. GOTTLIEB, M.D., Associate in Allergy Department, Jewish Hospital, Philadelphia; Instructor in Medicine, University of Pennsylvania School of Medicine. Second edition. *Gruen & Stratton*, 443 Fourth Avenue, New York City. \$12.

Within the period of less than three years since the first edition was offered to the medical profession that edition has been exhausted, and the authors are now attempting to meet the demand for further instruction of the same kind. Over a dozen years or so it has been claimed by a great many of those who devote special attention to the condition that allergy is directly or indirectly an important feature of more than half the medical diseases which bring the patient to the doctor; and certainly, allergy is an important factor in a great many illnesses which are labeled surgical.

It is doubtful if any branch of medicine has made as much progress in the last three years as has allergy. The authors have found it necessary to insert in the second edition 1300 new references and to increase the reading matter by 10 per cent, net; that is, allowing for contractions and eliminations. Special emphasis is placed on the new body of knowledge of endogenous allergins, especially auto-endogenous agents which can cause manifestations recognized as allergy.

A good many new terms—good coinage for the most part—will be found in the text.

The goal the writer has set for himself, he tells us, is to offer to the practitioner, to the specialist in all fields in which allergy plays a role, and to the students of allergy, a critical presentation.

CLINIC—From P. 291

thing and the name is no longer proprietary. On the other hand, if "phenobarbital" costs a third of what "luminal" does, I am willing to write the longer word to save money for someone. But why Ledercillin, Deracil, etc.? There are other good preparations of these drugs, pharmacologically and clinically indistinguishable from them. They may, for all I know, all be made by the same concern, but I would trust the quality of any one of a half-a-dozen or more among the leaders in the high-grade drug production business to furnish a preparation second to none of the others.

Very sincerely yours

Frederick R. Taylor, M. D.

along with representative illustrations to serve as guides in the diagnosis and management of the diseases of hypersensitivity.

The ability to formulate such an expression of intent connotes ability to carry out the intent. The writer has arrived at his goal.

All those whose needs were considered by the authors will find this book of immense value daily, and their patients will have cause to rise up and call the names of the authors blessed.

NEUROSYPHILIS. by H. HOUSTON MERRITT, A.B., M.A. (Hon.), M.D., Professor of Clinical Neurology, College of Physicians and Surgeons, Columbia University; RAYMOND D. ADAMS, M.A., M.D., Neuropathologist and Visiting Neurologist, Boston City Hospital; Associate in Neurology, Harvard Medical School; and HARRY C. SOLomon, B.S., M.D., Professor of Psychiatry, Harvard Medical School. *Oxford University Press*, 115 Fifth Avenue, New York City. 1946. \$11.

It is recognized that, of all the devastation wrought by syphilitic infection, that consequent on its attacks on the central nervous system are infinitely most terrible; and certainly the treponema pallidum devastatingly attacks nervous tissue far more frequently than any other. It is said that the introduction of the most recent treatment method has brought about largely the transfer of neurosyphilis from the province of neuropsychiatry to that of dermatology and syphilology, with a consequent neglect of many of the practical aspects of clinical neuropsychiatry, and much of importance of the neuropathology.

It is claimed that the clinical and pathological material here presented being obtained mainly from two institutions, the case material of each being quite different from the other, the presentation will give a rather complete picture of syphilis's relation to the nervous system.

All will be interested in the chapter devoted to asymptomatic neurosyphilis. If the reader does not derive from his reading enough light to illuminate this dark subject to his satisfaction, he will at least get the assurance for himself and his patients that the light is very considerable and the best available. The chapter on "puzzles and errors" will be read with avidity, and the teaching derived from a consideration of the lessons taught by actual cases cannot fail to be valuable.

Evidently the authors are among that small fraction of the population which is entirely free from superstition, for that supremely important subject of *treatment* is set forth in Chapter 13. In this chapter one may find all that is known, if not all that is claimed or that we would desire to know, on the subject of neurosyphilis.

THE PRINCIPLES OF NEUROLOGICAL SURGERY. by LOYAL DAVIS, M.S., M.D., F.A.C.S., Ph.D., D.Sc.(Hon.). Professor of Surgery and Chairman of the Division of Surgery, Northwestern University Medical School, Chi-

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cago. Third edition, thoroughly revised. Octavo, 542 pages, with 192 engravings, containing 348 illustrations and 5 plates, 4 in color. Lea & Febiger, Washington Square, Philadelphia. 1946. Cloth, \$7.50.

It is stated as the chief objective of this work to show physicians and students the possibilities of neurological surgery, to give general practitioners easily assimilable facts that will clarify their concept of neurological surgery and enable them to give their patients accurate and sound advice.

This new edition should be of great service in the diagnosis of all neurological conditions. It covers fully craniocerebral injuries, intracranial tumors and abscesses, the surgical lesions of the cranial nerves, injuries of the spinal cord and peripheral nerves, tumors of the skull and spinal cord and the surgery of the autonomic nervous system. Such topics as pain and the surgical treatment of epileptiform seizures, paralysis agitans and the psychoses are also covered. The work is a reliable guide in the diagnosis and treatment of the more common neurosurgical problems and must continue to enjoy great popularity among students and doctors.



LIPPINCOTT'S QUICK REFERENCE BOOK FOR MEDICINE AND SURGERY: A Clinical, Diagnostic and Therapeutic Digest of General Medicine, Surgery and the Specialties. Compiled Systematically from Modern Literature, by GEORGE E. REINERGER, A.B., M.D. Thirteenth edition. J. B. Lippincott Company, E. Washington Square, Philadelphia 5; London: Montreal. 1946. \$15.

This is just what it says it is, a quick reference book, and it refers the physician who consults it to the right track as to diagnosis and treatment. No single volume could possibly cover exhaustively the whole subject of general medicine and surgery and the various specialties; and the compiler has not undertaken to do so. The book meets a real need for quickly bringing to the busy physician with problem cases on his hands the means of solution of many of these problems.

DIABETES: A Concise Presentation, by HENRY J. JOHN, M.A., M.D., F.A.C.P., Lt. Col. M.C., Cleveland, O. Illustrated. The C. V. Mosby Co., St. Louis 3, Mo. 1946. \$3.25.

To one who knows Dr. Henry J. John for the plain-spoken man that he is, albeit one of the



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* For approved uses of oral penicillin see C. S. Keefer, et al., J.A.M.A., 128:1161, 1945

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greatest of the world's authorities on diabetes, it is not surprising that he chooses this title, nor that he is as good as his word and makes it a concise, although comprehensive presentation of the subject. The book is no rule of thumb. It emphasizes, perhaps more than anything else, the variability of the disease and of the responses to treatment in different cases and in the same case at different times. Every practicing physician or surgeon should own and study this book.

PNEUMOPERITONEUM TREATMENT, by ANDREW LADISLAUS BANYAI, M.D., F.A.C.P., F.C.C.P., Associate Clinical Professor of Medicine, Marquette University Medical School, Milwaukee. With 74 illustrations. *The C. V. Mosby Co.*, St. Louis 3, Mo. 1946. \$6.50.

A historical review tells us that many physicians over a long period of time have recognized the

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value as a therapeutic measure of introducing air into the peritoneal cavity. The technique of pneumoperitoneum is well described, and the fallacy of the common idea that there is great danger of puncturing an intestine is exposed. The physiologic changes following such introduction are narrated as the rationale of treatment. There are chapters on visceroptosis during pneumoperitoneum treatment, air embolism as a complication, accidental pneumothorax and mediastinal emphysema and other complications. Among the disease conditions in which this means of treatment is recommended are tuberculous peritonitis, enterocolitis and pulmonary tuberculosis; also tuberculous salpingitis, pulmonary abscess, bronchial asthma, bronchiectasis, emphysema and pulmonary hemorrhage of non-tuberculous origin.

ORAL MEDICINE: Diagnosis; Treatment, by LESTER W. BURKE, D.D.S., M.D., Professor of Oral Medicine, The Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania; Professor of Oral Medicine, Graduate School of Medicine, University of Pennsylvania. With a Section on Oral Aspects of Aviation Medicine, by MAJOR ALVIN GOLDHUS, D.D.S., M.S., D.C., A.U.S. Second Printing. With 350 illustrations, 60 in color on 10 plates. *J. B. Lippincott Company*, E. Washington Square, Philadelphia 5; London; Montreal. 1946. \$12.

This book is dedicated to an excellent purpose, that of furthering better relations between medicine and dentistry. It recognizes that the strongest

motives impelling patients to seek the services of dentistry are the prevention or relief of pain and improvement or maintenance of facial appearance. Much space is devoted to the relationships between oral and systemic disease, and opportunities are pointed out for more general and intimate coöperation between dental and medical practitioners in giving the best possible health service to our patients. There are chapters on the dental consultation, laboratory procedures, fusospirochetal infections, oral changes due to intolerance to metals, allergic manifestations. There is a whole section on diseases of the tongue and dermatologic diseases of dental interest, another on diseases of the organ systems, another on nutritional deficiencies and diseases of metabolism, another on the specific infectious granulomata. Section eight is devoted to focal infection, dental pediatrics and gerodontics, hazards of dental practice and dental disease of occupational origin. Subjects of especial interest are oral aspects of aviation medicine, relation of malocclusion to ear symptoms and regional diagnostic points.

WHY NEUROTICS? VETERAN PROBLEM

(C. N. Davis, Philadelphia, in *Penn. Med. J.*, Aug.)

History records man's reaction to war no different today than yesterday. Blood, sweat, mud, toil, and tears have not changed any more than man's nature. The words psychoneurosis and psychosomatic are new terms applied to an age-old condition. The majority of men return from war to peace bigger, stronger, and more mature. They have an adjustment to make, but the adjustment is well within the limits of that which is to be expected and follows a normal range.

The veteran's problem frequently consists of extrinsic factors, such as family life, schooling, work and play. These are problems of all, but especially in focus for the veteran as he begins to live his life anew as a civilian.

Compensation can be detrimental to the normal adjustment of the veteran because it places a profitable premium on his illness.

These men can be helped if we recognize that the vast majority of psychoneuroses are minor emotional upsets to be expected in the normal adjustment from war to peaceful civilian living.

TREATMENT OF ORCHITIS OF MUMPS

(R. A. Burhans, Corona, Calif., in *JL. Urol.*, 54:547, '45)

The orchitis of mumps is an acute hydrocele around the testicle which causes a strangulation of the testicle, acute inflammatory edema, and ultimate fibrosis and atrophy of the testes, generally a high fever and leukocytosis. After 12 to 24 hours the t. subsides and no further fever occurs, but the damage has been done.

In early cases of orchitis of mumps incision and drainage of the acute hydrocele is indicated, with removal of the drain in 48 hours. In late cases one should employ incision of the tunica vaginalis and incision and drainage of the tunica propria and tunica albuginea.

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STREET

CITY & STATE

CHUCKLES

The late C. Osborne Ward, a valued employee of the U. S. Department of Labor, was so conscientious that when on field work he refused to accept the customary allowance of \$3 a day "in lieu of subsistence," and asked to be permitted to collect only his actual expense. His account for subsistence was the smallest ever rendered to a department—such items as "crackers and cheese, 9 cents"; "bananas, 4 cents;" "pie, 5 cents;" and so on; and these often appeared more than three times a day.

The Comptroller of the Treasury informed him that regulations did not permit a Government officer to eat oftener than three times a day, nor authorize him to buy pie, bananas, or crackers and cheese. So Mr. Ward had to pay for most of his food out of his own pocket!

Groping downstairs in his bare feet, the householder surprised an intruder packing the family silver into a bag.

"By jove, a real burglar! I say, wait a minute, will you?"

"And you'll call a cop!" snarled the burglar.

"Oh, no, only while I call my wife. She's heard you every night for 20 years, and I'm sure it will be a real pleasure for her to meet you at last."

It was in his final illness. A militantly religious woman insisted that he make his peace with God, so as to be assured of meeting his beloved wife in Heaven.

"Dear Lady," he responded, short of breath as he was, "I doubt that I will meet my wife there. I married a widow, she's already gone to Heaven and rejoined her first husband."

"I want to grow some trees in my garden," explained the young bride. "Can you sell me a few?"

"Certainly, madam," replied the clerk, and handed her a bunch of a four the size of a good switch.

"Can you guarantee these?" asked the customer.

"Yes, madam, we can."

"Will the trees be tall and thick in the trunk?"

"They should be."

"And quite strong at the roots?"

"Yes, indeed."

"Very well," concluded the lady briskly, "then I'll take a hammock at the same time."

In a rural Georgia court a jury was being selected. A rather surly-looking farmer was claiming exemption, but seemed reluctant to state the grounds for his claim. At last he blurted out:

"Well, your honor, the truth is I have the itch."

"Clerk," was the judge's instant demand, "scratch him off, scratch him off!"

This man had the habit of coming home three or four times a week three sheets in the wind. His wife, with the aid of a sheet and a floor lamp, made a fair imitation of a ghost, went out and met her husband. "Wash thish?" he murmured.

Patient: Will the operation be dangerous?

Doctor: Not a bit. You couldn't buy a dangerous operation for \$40.

"This is the devil," was the answer.

"Shake, old horsh," he said. "I married your sister."

RECENT ADVANCES IN ANESTHESIOLOGY

(Donald Stubbs, Washington, in *Med. An. D. C.*, Aug.)

Continuous or trictional spinal anesthesia, introduced in 1939, has proved to be valuable. This method, first with the malleable needle left in place, but more recently with a fine ureteral catheter left in the spinal canal, makes it possible to obtain relaxation with less danger, because repeated small doses may be given only as it is needed. The use of the catheter, with its tip near the cord segments to be affected, keeps total drug dosage at the lowest level consistent with controlled anesthesia.

Although the early publicity, both medical and lay, became objectionable notoriety, this technic is now finding its place as one of the valuable forms of obstetrical analgesia.

Pentothal is the most important new drug of recent years.

Continuous spinal anesthesia, using a ureteral catheter, is the most important recent technical advance.

REGARDING THE UNUSUAL EFFECT OF PENICILLIN THERAPY UPON THE UTERUS

(M. D. Speiser & E. W. Thomas, New York, in *Jl. Venereal Dis. Inf.*, 27:20, '46)

Penicillin therapy has been reported to have caused uterine contractions which have resulted in abortion and to have caused an alteration in menstruation and intermenstrual bleeding. Review of the records of 156 prenatal patients who had received from 600,000 to 2,400,000 Oxford units of penicillin indicates that in none of these instances could a possible relationship between penicillin therapy and the alteration in the course of the pregnancy be suspected.

ETIOLOGY AND TREATMENT OF HEARTBURN OF PREGNANCY

(L. M. Wiley, Cincinnati, in *Amer. Jl. Obs. & Gynec.*, 51:221, '46)

Twenty women complaining of heartburn were given a supply of prostigmine bromide tablets (15 mg. each) and instructed to take one as soon as symptoms appeared. Complete relief occurred in 15 cases within 15 minutes after taking one tablet. If the symptoms recurred (as they often did each day), another tablet gave similar prompt relief. Two patients reported partial relief, and one inconclusive results.

In some women who were often awakened at night with heartburn, a prophylactic tablet taken on retiring ensured an unbroken night's sleep.

MICROSCOPIC RENAL CALCULI were found in each of 170 diseased or grossly normal kidneys at necropsy. Apparently almost everyone has a microscopic calculus which could erode through the epithelium at the tip of the papilla and act as a nidus for the formation of a plaque and then a stone. Then why do not more persons have large kidney stones? In my opinion large or symptomatic renal calculi are the result of a systemic process or dietary disease rather than of a disease of the kidney—Leo Anderson, in *Proc. Staff Meet. Mayo Clinic*, Aug. 21st.

SCHERING INTRODUCES PROMETRON

A convenient method for the effective Zondek treatment of retractive secondary amenorrhea *Prometron*, administered daily for two days, prior to the expected date of menses.

Prometron, 2.5 mg. of alpha-estradiol benzoate and 12.5 mg. of progesterone to each ampule, is introduced by Schering Corporation. For greater convenience to physicians using combined estrogen and progesterone in the prevention of abortion, *Prometron* is packaged in boxes of two ampules.

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A Shorter Psychotherapy

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From the University of Georgia School of Medicine

THOUGH many physicians in other fields of medicine have repeatedly stated that half, or more than half, of all their patients are fundamentally psychiatric cases, relatively few men doing general practice, internal medicine or the other specialties have shown as much interest in the personality problems of their patients as in other medical problems. Despite the considerable interest that arose in psychiatry after the First World War and the rapid advances made, it is probable that practical concern with psychotherapy did not penetrate very widely and deeply into medicine as a whole.

With the end of the Second World War there are many indications that the necessity for psychiatry in general medicine will be more practically recognized. Some factors that have probably hindered the utilization of psychiatric knowledge by physicians in general are as follows. Long ago psychiatric patients were regarded as possessed by devils or disordered by witchcraft and dismissed as no medical problem. Some were left to the exorcists, others to the executioner and some voluntarily resorted to quacks. The rise of scientific medicine during the latter decades of the last century apparently focused so much of medical interest on cellular pathology that many practicing physicians, absorbed in their specialties, came to the conclusion that complaints for which no ordinary physical cause could be found were unreal or imaginary. This assumption that the psychiatric

patient is merely putting on, or that he is weak or foolish, has perhaps blinded medicine to a point where misconceptions comparable with those of the Middle Ages are not rarely found. To say that the patient is putting on or that there is nothing wrong with him is scarcely closer to the fact than the assumption some hundreds of years ago that the patient was not ill but bewitched. In both cases the physician is dodging the issue and leaving the patient without help.

The abstruseness of psychiatric terminology and the extreme complexity of some formulations of personality problems have perhaps also tended to make the general physician eschew the subject. Psychoanalysis, which has probably contributed more than has any other discipline to psychiatry, has offered a therapy lasting a year or more and costing far more than any but a small percentage of patients could afford. In some circles the opinion has been voiced that anything short of such drastic and prolonged therapy is too superficial to be worthwhile.

In view of these factors and perhaps others, surprisingly little active psychiatric work has been accepted as a responsibility by a large percentage of physicians. Though a number of ambitious textbooks on psychotherapy are available, most practitioners find it difficult to learn from books how to handle the average patient who consults them.

A few simple principles are perhaps worth outlining.

1. Let the patient talk.
2. Reassure and support the patient.
3. Change the patient's routine of living.
4. Endeavor to give insight (teaching).

1. If the patient is *allowed to talk*, a good deal can be accomplished. He has usually been dismissed by other practitioners as a minor problem or as no problem at all and has seldom had the opportunity to express himself satisfactorily. If he can ventilate himself, so to speak, if he can get the load off his chest which his symptoms constitute—much may be accomplished. One might say, let him talk to his aunt or his friend. There is, however, something more to listening than merely remaining silent. It is difficult to express what this is, but the process of listening with real effort at understanding is often strenuous. If the physician has genuine interest and understanding of himself and his own problems it is probable that the patient will gain help merely by expressing his troubles. In addition to the emotional relief which the patient obtains, he is often able to find his problems objectified to some degree after a discussion of them and it is possible that solutions which he has not before suspected may come into reach.

2. As the patient takes the therapist into his confidence many opportunities to give him *support* will arise. If statements are avoided which convince the patient that the physician fails to understand him, it is much more likely that he can receive help. Such remarks as, "You have nothing wrong with you," "Be a good sport and forget it," "It's just your imagination," are particularly to be avoided. The major reason for avoiding them is that they are untrue. And, furthermore, the patient knows it.

In many cases the patient feels or has been taught to feel that he is a fool or a weakling if he has an anxiety for which he can find no reason, or if he has other psychiatric symptoms. It is important for the patient to learn that strong and capable, and sometimes even distinguished, people have frequently had similar symptoms. The effectiveness of reassurance is perhaps measured less by the actual words that one says than by the true conviction in them.

3. A *change in the daily routine* is essential in most cases. Many psychiatric patients have withdrawn from satisfying activities and are leading a life which would be frustrating to the ordinary person. A schedule of simple activities is worked out with the patient. He can often be persuaded to broaden his daily pattern of life and eventually to find fresh interest in activities he has long abandoned. It is important to go into detail with the patient and for the physician's own conviction to

be communicated to the patient. If the psychiatric patient, long submerged in his symptoms, can be led to find even some small foothold in active and satisfactory living, he can frequently be helped to work and make further progress with his problems.

4. *Insight* is perhaps hindered less by ignorance than by the belief in so many things that are not true. The gaining of insight even into the superficial mechanisms through which the symptoms arise is not unimportant. If the patient with cardiac neurosis who is frightened by his fast pulse and the perceptible beating of his heart can be thoroughly instructed in the effect of uneasiness on the pulse, he may find it easier to control his fear. If the patient troubled by insomnia can be made to realize that remaining in bed for twelve or fourteen of the twenty-four hours is, in itself, an important causal factor in his inability to sleep, steps may be taken that will be helpful.

Efforts to give the patient deeper insight, though they should of course be undertaken with caution, constitute, perhaps, the most important measure for bringing about lasting change. As the patient talks during repeated interviews, the careful physician can often enable the patient to see the causal relation between distorting emotional influences during past years and faulty ways of trying to solve problems and the present conflict. Though experience and special training are of great value to the therapist in his efforts to give the patient insight, it is by no means rare for a senior medical student or an intern to succeed in helping a patient understand conflicts which have made serious trouble over long periods of time.

Measures such as hypnosis and narcoticsynthesis are often of great value in shortening therapy. The removal of the immediate symptom sometimes leads to the development of confidence in the physician so that deeper exploration can be carried out. Often material is revealed during these procedures which the therapist can use to help the patient find an answer to his problems.

CONVULSIONS IN INFANCY AND CHILDHOOD

(Douglas Buchanan, Chicago, in *Med. Clin. N. Amer.*, Jan.)

There is no evidence that the popular remedies of enemas and hot and cold baths have any effect in shortening the duration of a convulsion. In hospital practice they are seldom used. If a convulsion appears in association with fever, it is correct to attempt to reduce the temperature.

A series of convulsions can best be terminated by subcutaneous injection of from 1 to 2 grains of phenobarbital sodium. This usually requires from 15 to 30 minutes to achieve its effect. The drug in this dosage can safely be repeated even in children less than one year old. Avertin by rectum 50 to 75 mg. per kilogram is always effective. It is seldom necessary to use it except in status epilepticus. Intramuscular injection of from one to two c.c. of paraldehyde is effective and without danger.

Dicumarol - Its Use in Acute Coronary Thrombosis*

ALBERT A. KOSSOVÉ, M.D., Charlotte

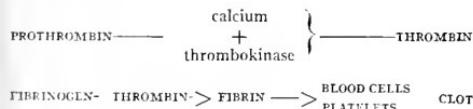
WITH a prefatory statement that I have had no personal experience with the use of this drug, other than as an observer early this year of the work done by Wright and his associates in New York, this paper will undertake a sketchy review of the literature with particular emphasis on the role this drug plays in reducing the incidence of thrombotic and embolic processes which so often complicate acute coronary thrombosis, and which contribute substantially to the mortality rate of this prevalent condition.

PHYSIOLOGIC AND PHARMACOLOGIC ACTION

In order to bring to the front of our minds facts which may have been pushed to the rear, it seems well to review the physiology and pharmacology, that we may understand the rationale of the use of the agent.

Dicumarol was first isolated from spoiled sweet clover in 1941 by Link¹ and his co-workers. Shortly thereafter this same group² synthesized this anticoagulant, and it was named Dicumarol by the Wisconsin Alumni Research Foundation.

The mechanism of normal blood clotting, so far as it is understood, is outlined by a chart which gives us a simple representation of its fundamental aspects.



Since the use of dicumarol is so much governed by prothrombin-time determinations, a few words should be said about the latter. These determinations made by Quick's³ method were found to be inaccurate. Thromboplastins proved of differing potency, giving different readings for prothrombin and consequently inaccuracies for various degrees of prothrombin activity. It was found, however, that dicumarol regularly causes a prothrombin deficiency and therefore a prolonged prothrombin time. This is substantiated by Segard⁴ and others. Warren and Findley⁵ assert that dicumarol prevents formation of prothrombin through inability of the liver to utilize vitamin K and thus the prothrombin time is increased. Thus prothrombin deficiency may be mild or severe depending upon the amount of the drug given over a period, and upon the susceptibility of the patient to the drug.

In an attempt to obtain more accurate determinations of prothrombin time then, various modifications of Quick's method have been devised. The details of these do not concern us here. Suffice it to say that Link's,⁶ Shapiro's,⁷ and Brambel's⁸ modifications are considered to give accurate enough results of the effects of dicumarol administration. Peters *et al.*, at Mercy Hospital, Baltimore,⁹ using Brambel's modification, find the normal prothrombin time using whole plasma to be 12-14 seconds; using diluted plasma (12.5%); 80-120 seconds.

At the Post Graduate Hospital in New York, using Shapiro's method, 15-20 seconds is considered normal for whole-plasma prothrombin time. Others report prothrombin time in relation to percentage of normal.

The aim in the rationale using dicumarol is to prolong the prothrombin time to the point where thromboembolic processes will not occur, but not so far as to facilitate hemorrhage. Exactly where this point is will be discussed later. Of little significance is the fact that dicumarol also usually prolongs the clot-retraction time, possibly inhibits platelet adhesiveness,¹⁰ and makes more rapid the sedimentation rate of erythrocytes. This last observation precludes, of course, the use of the sedimentation rate as an index of the progress of a patient who has suffered a coronary thrombosis. The trend seems to be to make patients ambulatory as soon as possible, not to wait for the sedimentation rate, leukocyte count, etc., to return to normal.^{11,12}

DOSAGE AND ADMINISTRATION

All investigators and clinicians insist that accurate prothrombin-time determinations be done daily, certainly that this be done before the administration of dicumarol. At the Post Graduate Hospital an attempt is made to reach the optimum prothrombin-time level, not quite doubling the normal prothrombin time. The normal being considered 15-20 seconds, dicumarol is given to bring the prothrombin-time to 35 seconds. To do this 300 milligrams are given orally each day until prothrombin time equals 30 seconds; then 200 milligrams, to 35 seconds—when the dicumarol is discontinued, and not resumed until the prothrombin time is down to 30 seconds at which point daily doses of from 100 to 200 milligrams are given with caution. Individual cases require deviation from this general rule.

*Presented to the Mecklenburg County (N. C.) Medical Society, Charlotte, September 3d.

Barker,¹⁰ at the Mayo Clinic, suggests that 300 milligrams be given the first day, then 200 milligrams each day the prothrombin is greater than 20 per cent of normal. When the prothrombin activity is less than 20 per cent of normal, dicumarol is discontinued. Some patients require 300 milligrams; others only a third of this quantity. Post-operatively, to prevent thromboses and pulmonary embolisms, dicumarol is begun the third post-operative day, and continued until the patient leaves the hospital and is ambulatory at least four days.

Peters *et al.*⁹ aim to maintain the patients' (all his patients were cases of coronary thrombosis) prothrombin activity between 35 and 50 per cent of normal, and dicumarol is continued at least 42 days to carry the patient well beyond the period of greatest danger as regards embolic phenomena. To do this 300 milligrams is given as the initial dose and reduced according to the prothrombin time as determined with diluted (12.5%) plasma every other day. When the prothrombin time is beyond 400 seconds with diluted plasma, this is considered the caution point and extreme care is taken in the subsequent use of dicumarol.

CComplications AND TOXIC EFFECTS

None of the groups reporting on the use of dicumarol has found any serious toxic effect. To be sure, there may be a mild diarrhea or occasional nausea and vomiting or mild epistaxis or microscopic hematuria, but these have not been of such degree as to be disregarded.¹⁰ Thus in a series of fifty cases in which dicumarol was given at Mercy Hospital in Baltimore, in only three did bleeding occur, and this was microscopic, and the only complication.⁹ At Post Graduate Hospital microscopic hematuria, epistaxis and petechiae are considered danger signals, and extreme caution is used thereafter in administering the drug. All investigators agree that there are no delayed toxic reactions and that the only serious complication is frank hemorrhage. If this should occur, an immediate intravenous dose of 60 to 64 milligrams of vitamin K should be administered and this followed by transfusion of whole blood.^{4,5,9,10} Some investigators say vitamin K should be given even when the very mild signs of bleeding—microscopic hematuria, epistaxis, etc.—are manifest.

INDICATIONS AND CONTRAINDICATIONS

Some are more conservative than others in advocating the use of dicumarol. Poindexter suggests that if the sedimentation rate, fever and pulse rate are elevated for a longer period than seven days, one can usually predict a mural thrombus, and therefore dicumarol should be used. Cottlove and Vorzeimer¹³ maintain that dicumarol should be used in cases of mural thrombosis resulting from myocardial infarction, and in cases of auricular thrombi with multiple embolism. Dicumarol is plainly indicated postoperatively, in many

types of cases, so as to reduce the incidence of thrombo-embolism, prevent further embolism after it has occurred, and facilitate more rapid resolution of phlebothrombosis and thrombophlebitis. Perhaps the best outline of its indications is that of Barker,¹⁰ who gives the indications for the use of dicumarol as:

1. Nonfatal postoperative, postinfectious or post-traumatic pulmonary embolism (because of the great risk of subsequent venous thrombosis and embolism during the subsequent few days or few weeks);
2. Postoperative, postinfectious or posttraumatic thrombophlebitis (because of the danger of extending or remote venous thrombosis, and therefore of pulmonary embolism, during the subsequent few days or few weeks);
3. After operations on patients who have previously had thrombophlebitis or pulmonary embolism (because of the danger of recurrence of these complications);
4. After peripheral arterial embolism (because of the danger of further intracardiac thrombosis and of propagating thrombosis from the embolus when the arterial spasm relaxes); and
5. After acute peripheral arterial thrombosis from any cause (because of the imminent danger of extending arterial thrombosis).

Dicumarol is contraindicated chiefly in definite renal or hepatic insufficiency, blood dyscrasias with hemorrhagic tendencies, subacute bacterial endocarditis and recent operations on brain or spinal cord (very grave outlook if bleeding should occur at the site of operation). It should be used with caution in cases of hypertension, congestive failure and various gastrointestinal conditions (due to poor absorption of the drug).

DICUMAROL IN CORONARY THROMBOSIS

The incidence of coronary thrombosis is apparently on the increase. In our own profession, of all deaths among physicians in 1944, one out of five was due to coronary thrombosis or occlusion.¹⁴ Our treatment has been more or less symptomatic. The patient is put to bed, attempts are made to relieve pain, the patient may be given oxygen, etc. Constant watch is made for complications. "Under such a regimen, 80 per cent recover⁹ from the first attack. In the remaining 20 per cent the greater number of deaths are from congestive failure and embolism." Blumer¹⁵ states that 50 per cent of cases of myocardial infarction are accompanied by mural thrombi within the ventricles. Levine¹⁶ substantiates this and Master¹⁷ maintains that arterial embolism is the commonest cause of death in patients under fifty. Nay and Barnes,¹⁸ in reviewing 100 consecutive cases of acute myocardial infarction at Mayo Clinic, found 37 per cent had thrombo-embolic complications, and that these were

important contributing factors in the death of 12 of these cases. These pertinent statistics as regards the frequency of thrombotic and embolic processes following coronary thrombosis led Peters and his associates¹⁰ to study the effect of dicumarol with regard to reducing the incidence of such complications.

They studied 110 cases of coronary occlusion with infarct since 1943 (proven by laboratory work, ecg., etc.) and divided them into two groups.

Group I—60 patients received no dicumarol and were considered the control group.

Group II—50 patients received dicumarol according to the usual formula and the prothrombin activity was kept between 35 and 50% of normal. The Quick method of ascertaining the prothrombin time modified by Bramble was used. It was observed that in Group I (60 patients) there were ten patients (16%) with clinical embolism, six of whom died as a result of this embolism. In all, 13 (20%) in this group died. In Group II (50 patients), only one patient (2%) showed clinical evidence of embolism—and in this case dicumarol was delayed until the eighth day and there had not been time for full effect to be exerted when the cerebral embolism took place. One other death in this group (making two in all or 4%) resulted from a renal complication, the dicumarol having been given only two days. Thus they observed:

1. There is an increased clotting tendency in most cases of acute coronary thrombosis.

2. Dicumarol can be safely administered to such patients to disrupt this clotting mechanism. (It was given during the entire hospital course and the prothrombin activity maintained between 35 and 50 per cent of normal. Few toxic reactions resulted and there were no ill effects.)

3. There was reduction of embolic phenomena to $\frac{1}{6}$ th and of mortality rate to $\frac{1}{5}$ th in the group given dicumarol as compared with the control group.

4. Digitalization for congestive failure in cases of coronary thrombosis increased the incidence of thrombo-embolic complications which hazard may be nullified by giving dicumarol to full effect.

Another group,¹¹ however, headed by Cotlove and Vorzeimer, working at Beth Israel Hospital in New York, concluded that there was no clear evidence that digitalis increases the coagulation of blood or the tendency to thrombosis; de Takats²² suggests that it does, however, thus substantiating Peter's conclusions.

Among the findings of Cotlove and Vorzeimer were:

1. Ambulation did not affect prothrombin activity.

2. The presence of congestive heart failure did not influence prothrombin activity, nor was any change observed following recovery from failure.

3. In a small group of patients who had mural thrombosis of the cardiac chambers with embolism, no specific change in prothrombin activity was noted. (This is contrary to what others have found.)

4. The abnormal acceleration of the diluted-plasma prothrombin time, which has been observed in cases of thrombo-embolism, may be entirely secondary to the thrombosis.

5. Cardiac patients appear to be more sensitive to dicumarol than others. Cardiac patients with thrombo-embolism who were given an "averaged" dose of 500 mg. of dicumarol over a period of two or more days developed excessive and dangerous elevations of the prothrombin time. The administration of dicumarol to cardiac patients or any patients in a debilitated state must be done with caution.

6. Dicumarol is probably of no value in preventing or minimizing coronary thrombosis but it is suggested that it be used the first three weeks following severe myocardial infarction in an effort to prevent mural thrombosis and venous thrombosis.

Wright and his co-workers at the Post Graduate Hospital in New York classified a series of patients of theirs, all of whom were given dicumarol, as follows:

Group I. 43 cases of coronary thrombosis with complications—

- a. Patients with a history of multiple thrombi, or propagation of the original thrombus (evidenced by serial ecg., etc.) 28.
- b. Patients with repeated embolic phenomena (to lung, etc.) 13.
- c. Evidence of both conditions, 2.

Group II. 33 cases of "uncomplicated" coronary thrombosis.

In Group I the anticipated mortality was 75 per cent. Actually there were eleven deaths (25%); and 38 cases showed no further emboli or evidence of additional extension of the thrombus. In Group II the anticipated mortality was 25 per cent. Actually there were four deaths (12%).

Wright concluded that:

- 1. Dicumarol never aggravates or complicates a case of coronary thrombosis.
- 2. Dicumarol should be used whenever there is a tendency of emboli to occur or of the thrombus to propagate or repeat. Dicumarol decreases this tendency.
- 3. The percentage of deaths is decreased when dicumarol is used.
- 4. Dicumarol is of value as a preventive measure against emboli and thrombi.

5. Dicumarol will not affect uncomplicated coronary thrombosis, but we cannot tell which will be complicated. He therefore suggests its routine use in coronary thrombosis.

HEPARIN

Before summarizing the several reports on dicumarol reviewed here, a few words should be said in regard to Heparin. Heparin is a liquid concentrate that can be given only parenterally, generally intravenously. Recently it has been given intramuscularly mixed with oil and beeswax to retard its absorption. Heparin may be made up into Pitkin's menstruum and given every two or three days.²¹ But more work is necessary to substantiate the efficacy of these latter modes of administration.

Heparin acts as an antisubstance on thrombin and platelets delaying the coagulation time from a normal of 5-10 minutes to 20-30 minutes.¹⁹ Its anticoagulant action is very rapid,²⁰ but fades within a few hours as contrasted to the delayed but prolonged activity of dicumarol and must be readministered every four hours or continuously. It is expensive and, since vascular complications seldom occur before the fourth day in acute coronary thrombosis, heparin is not necessary if dicumarol is begun⁹ with the onset.

SUMMARY

Link and his coworkers have isolated and synthesized a drug which, by virtue of interfering with the production of prothrombin by the liver, produces a hypoprothrombinemia and prolongs the prothrombin time. This drug, dicumarol, can and does prevent thrombo-embolic processes so frequently seen complicating acute coronary thrombosis and responsible for a large percentage of deaths. It cannot be used as a preventive of thrombosis of the coronary arteries, since the premonitory signs of coronary occlusion are not often recognizable and the clinician cannot tell in advance when dicumarol should be given. Therefore the initial process cannot be prevented, but once the thrombosis is manifest dicumarol apparently prevents the extension of the thrombus and reduces the chances of future formation of mural thrombi and the resulting embolic processes.

The length of time necessary for producing dicumarol effect varies with different patients from 12 to 72 hours, and the duration of this effect from one dose from 2 to 20 days. It is inexpensive, easily administered per os, has few minor toxic manifestations, and the only serious complication is frank hemorrhage, which is easily controlled with intravenous vitamin K, or transfusion of whole blood, or both. It should not be used in renal or hepatic disease, blood dyscrasias with a tendency to bleed, and a few other conditions; and should be used with caution in hypertension and congestive failure. It should, however, possibly be

used routinely in the treatment of all other cases of acute coronary thrombosis.

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CHOLECYSTITIS.—Infection is seldom the primary cause. Cholecystitis is nearly always caused by chemical agents which are normal constituents of the body. The evidence shows that two agents—pancreatic juice and bile salts—are the chief offenders. That pancreatic juice can cause cholecystitis in man has been proved. That bile salts can do so is extremely probable.—W. G. Gatch *et al.*, Bloomington, Ind., in *Jl. A. M. A.*, Sept. 21st.

DEPARTMENTS

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

THE ASSETS OF A CENTRAL PURCHASING AGENCY

TIME WAS when hospital purchasing was carried out by any and every party concerned in the hospital for his or her department, and when the hospital treasurer could stand the purchase or when the institution's credit was good. Today, purchasing is carried out largely through business managers or superintendents. The wherewithal to purchase is not nearly as important as the ability to find the necessary equipment and supplies.

The old saying, "a dollar saved is a dollar earned," has not been practiced well by the hospital administration in the past. The writer has seen some outrageous so-called deals put across on some hospitals because the purchasing party was ignorant of the opportunity of purchasing the same material or supplies at a much lower figure elsewhere. Not too long ago, one 70-bed hospital bought so much glucose and saline that for months it was stacked up in the driveway because of the lack of space in the hospital storeroom. This means that there was either super-salesmanship on the part of the representative, or super-ignorance on the part of the purchasing party.

For a number of years now, the North Carolina Hospital Association has contemplated and discussed the advisability and practicability of having a full-time secretary and purchasing agent. At times we have been hot on the trail; at other times rather cold. At one time it looked as though we would be able to combine the purchasing agency in North Carolina with such an agency for the other Southern states. This apparently fell through because of the amount of organization work necessary. It would seem that this is an opportune time for the North Carolina Hospital Association to plan for a full-time secretary and purchasing agent combined. Many excellent young men are returning from their services in the armed forces. Many are seeking fields other than those they were in before they went into the army or navy. The only thing necessary for the completion of this arrangement is for the executive committee of the Hospital Association to decide upon a few basic principles and make recommendation to the Hospital Association at their next meeting.

Some of these decisions would be easy to make. For instance, the office of the central agent should be in the middle of the state; it should be accessible to the larger cities where purchasing could be

done in volume. It should carry salary sufficient to interest a man competent in the field of purchasing. The money to pay for this arrangement would not be hard to obtain if the hospital association would underwrite the first few months or year of these expenses by setting a fee of \$100.00 for each hospital's membership in the purchasing pool. The small amount of profit on the equipment and supplies handled by this agency would rapidly add to this fund. If there were twenty-five hospitals paying one hundred dollars, this would take care of fifty per cent of the first year's expense. I am sure a good man could be found to start this program within that figure. Of course, it should and would easily pay more as time went on. There is no doubt but what each hospital would save far in excess of one hundred dollars in the first six months; besides the convenience of having someone who could put his finger on the phone and call the party concerned who could furnish, immediately, the equipment or supplies needed.

The writer urges the Executive Committee of the North Carolina Hospital Association to render this valuable service to the hospitals of our state by now having a meeting and deciding for a full-time purchasing agent and secretary.

PEDIATRICS

E. L. KENDIG, M.D., *Editor*, Richmond, Va.

DIABETES IN CHILDREN

THE DIFFERENT INSULINS have been in use long enough and on a large enough scale to afford authoritative information on what they will do. Weiss¹ has set down the means of diagnosis and management of diabetes in children. The essentials are abstracted for the reassurance of the family doctor:

In the Naunyn era, 1898 to 1914, the life expectancy of a child with diabetes was a few months or even weeks. In the Allen era, 1914 to 1922, it was between one and two years. Now the diabetic child may look forward to practically a full life span.

Diagnosis of diabetes mellitus should not be made unless there is hyperglycemia. It is sometimes necessary to do a glucose tolerance test to make a diagnosis. About 10 per cent of diabetics develop the disease early in childhood. Onset of diabetes in a child is, as a rule, much more acute and severe than in the adult. Often a diagnosis is not made until the child is in coma.

It is best to hospitalize the patient for seven to 10 days for adjustment and education. Later the child should report to the office at intervals, bring records of daily urine tests for sugar and of the diet and insulin lists. Blood sugar determinations should be done from time to time to see that the

¹. Selma Weiss, Newark, in *Jt. Med. Soc. N. J.*, Sept.

fasting blood sugar is *neither too high nor too low*. The regimen should promote a life of comfort and usefulness and not interfere with the child's normal activities.

Parents should be taught to test the urine for sugar and acetone, and not become over-protective and interfere with the child's social adjustment. Companions and teachers should be familiarized with the symptoms of insulin reactions and what to do when they occur.

The diet should be adequate for normal growth and development. It does not differ from that of the non-diabetic child. Care should be taken to prevent obesity. Mineral and vitamin content is provided by including in the daily diet one quart of milk, butter, eggs, cheese, fresh fruits and vegetables; vitamins, especially A and D, added. Children under five are given 90 to 125 Gms. of carbohydrate; older children 125 to 200 Gms. Protein must be adequate for normal growth and development; 3 Gms. per Kg. body weight in very young children, and from 2.5 to 1.5 Gms. per Kg. body weight in older children. The amount of fat should be sufficient to make up the daily requirement.

When regular insulin is given before breakfast only, the carbohydrates are divided thus: 2/5 of the total for breakfast (of which 10 Gms. are a mid-morning snack), the rest evenly divided between lunch and Supper. When two doses of insulin are given, one before breakfast and the other before supper, 10 Gms. are deducted from the evening meal and given two hours later. When protamin zinc insulin is used the division of carbohydrates is: 1 1/5 for breakfast, 2 1/5 for lunch and 2/5 for supper, with at least a total of 20 Gms. deducted from the lunch and evening meals and given at bedtime. When globin insulin is used, 1 1/5 or less for breakfast, 3 1/5 at noon, from which 10 to 15 Gms. are deducted for a mid-afternoon snack and the rest for supper.

Children, as soon as a diagnosis is made, require both regular and protamin zinc insulin. With these two types, it is generally possible to maintain fair control even in the severest case.

The dose must be large enough to prevent any considerable spill of sugar in the urine following the meal after which it is given, and yet prevent a reaction before the next meal. Because of the growth of the child, the dose of insulin has to be adjusted and changed during any acute infection or illness.

When his urine is free from ketone bodies, sugar in the urine is small in comparison with his carbohydrate intake, the blood sugar fluctuation is within reasonable limits during the entire day, and when he is free from reactions (except when such reactions are caused by unusual overactivity or by a gastric upset) the proper regimen is in use.

Maintenance of normal weight for age and height is also evidence of good control.

Exercise should be taken after meals, when the blood sugar rises, rather than before meals when the blood sugar falls.

The complications of diabetes in childhood are coma, hepatomegaly, infections, skin lesions, and failure of growth. The latter is to be corrected with proper endocrine medication.

Coma results from dietary indiscretions, omission of insulin, or occurrence of an acute infection. Treatment: 1) insulin to combat diabetes, 2) fluids to combat dehydration and 3) gastric lavage and enemas to combat gastro-intestinal stasis. The dose of insulin and the frequency of administration depend upon the blood sugar, the amount of sugar and ketones in the urine, and when possible to obtain, upon the carbon dioxid combining power of the plasma. Regular insulin, 10 units every hour in a very young child, to 30 to 40 units every half hour in an adolescent, is an average.

To combat dehydration 5 per cent glucose in normal saline is given intravenously or subcutaneously 1,000 to 3,000 c.c. in 24 hours. Dilatation of the stomach is frequent in coma. Removal of contents of the stomach with warm tap water relieves the abdominal distress and stops the nausea and vomiting. Stimulants are seldom necessary and, as a rule, the prognosis is good.

ORTHOPEDIC SURGERY

JAMES H. CHERRY, M.D., *Editor*, Asheville, N. C.

SISTER KENNY AND INFANTILE PARALYSIS

TO FAR as the medical profession, or at least those in the medical profession who have had the most experience in handling the cases of infantile paralysis, are concerned, the controversy which has raged during recent years around the so-called "Sister Kenny Method of Treatment" has already been settled. Unfortunately, as happens much too often, the misguided lay press, together with a few self-appointed medical authorities from Hollywood, have continued to keep this so-called controversy before the attention of the public.

From the observations which have been made by unbiased, competent clinicians, after employing this type of treatment over a ten-year period or more, the conclusions may be drawn briefly as follows:

- (1) As yet, there is no specific agent or method of treatment to counteract the causative virus and the pathology which it causes in the spinal cord.
- (2) The so-called "Sister Kenny Method of Treatment," employing hot packs, passive and active exercises at the early stage and psychological reassurance, does benefit these patients in the fol-

lowing respects: (a) the patient is made more comfortable due to the fact that pain resulting from the muscular spasm is reduced; (b) there are fewer contractures due to the fact that early and repetitious full range of motion of the affected joints is insisted upon; (c) muscles which have been weakened and not completely paralyzed by the disease, undoubtedly return to their maximum recuperative power quicker under this method of concentrated physiotherapy. Those muscles which are completely paralyzed in the beginning, yet regain some of their power, are also helped.

(3) So far as can be determined, in the severe type where there has been a permanent paralysis of a muscle group from the beginning, with an extensive or total degeneration of the spinal cord from which the muscle group derives its nervous control, no benefit results from the employment of this method so far as permanent recovery of the muscles is concerned.

The author, who has had the opportunity to observe the treatment of these cases in the crippled children's clinics in Western North Carolina, before this method was employed in this State and afterwards under the guidance of the National Foundation for Infantile Paralysis, has made the following gross observations:

That all cases of infantile paralysis may be divided roughly into four categories—(a) About 30 per cent comprise those cases in which there is no initial or subsequent permanent paralysis; (b) Those cases comprising about 30 per cent in which there are only mild to moderate residual paralysis and deformities; (c) About 25 per cent comprising those cases in which there are severe permanent paralyses and deformities; (d) About 5 per cent in which death usually results from the initial disease either from respiratory paralysis or from other complications. This latter percentage varies with the proportion of the epidemic and the virulence of the virus.

Before 1944, when the National Foundation set up emergency hospitals in Hickory and Charlotte, the percentages as outlined above ran rather true to form so far as I could determine in observing the permanent paralyses and deformities. After returning from the service, the author has had the opportunity to observe cases which have been treated since 1944 in this section of the state by the so-called "Sister Kenny Method." It is my opinion that the same percentage holds true with the *possible* exception that there are less contractures than previously noted and that those cases in which recovery appeared to be good at the onset seemed to have recuperated more rapidly. The final conclusion is that it has had very little, if any, effect on the third group of cases, which from the onset had severe and permanent paralysis.

It is interesting to note that Lovett of Boston and other orthopedists and clinicians used the hot-pack method years before Sister Kenny made her appearance in America; and even prior to this, local heat had been advantageously used in some form or other to relieve pain and spasm.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

TREATMENT OF HEART FAILURE

NEVER, perhaps, was attention so concentrated on heart disease as a cause of death by hordes. Only yesterday I saw a statement from a good man, an ordained minister, a doctor of divinity, that most deaths came through sin. Surely he knows better. How does he explain the fact that sinful bankers live longer than pious preachers? The reverend gentleman must have become obsessed with some such idea as: the "diseased heart" of the pathologist is the same as the "bad heart" of the theologian.

To return to our subject proper:

The three essential elements in the treatment of heart failure are salt restriction, the mercurial diuretics, and digitalis. Diet, vitamins, sedatives and morphine have to do with the patient's comfort and improvement of the general reserve.

Every patient with heart failure should be digitalized. There are no exceptions to this rule. There are no contraindications.

Heart failure! What pictures are called up by the two words! Everybody pricks up his or her ears.

Here be words of wisdom from Cornell:¹

All of the desired effects may be obtained by the use of the digitalis leaf, commonly as tablets of 0.1 gram or USP unit, dosage 1.2 grams in the first 24 hours for full effects. Some patients require 2 grams, others as little as 0.8 gram to digitalize fully; usually the full dose is given in four fractions at intervals of six hours. In patients with auricular fibrillation the decline of the ventricular rate to 70 a minute is the most satisfactory guide; in patients with a regular sinus rhythm, improvement in the symptoms of heart failure. The improvement may occur slowly and the endpoint is not sharp, and one continues the drug until nausea, vomiting, or premature contractions appear. These unpleasant symptoms subside if the drug is withheld for a day or two.

The state of digitalization may be maintained by an average dose of 0.2 gram daily, 1 or 2 tablets at one time. Some patients do well with as little as 0.1 gram while a few require as much as 0.3 gram daily for maintenance. In patients with a regular sinus rhythm, the heart rate is not a satisfactory guide to the state of digitalization. If the

1. Harry Gold, in *The Internist*, Jan., '46.

rate has been rapid in such cases, it is likely to slow as the clinical improvement advances, but many cases have a fairly slow rate even when they are in marked failure, and in these little or no further slowing occurs as the result of the drug. A slow heart rate in the presence of heart failure is no bar to the use of digitalis in the usual dosage.

There are several purified glycosides of digitalis in common use—such as digifoline, digalen, cedilanid, digoxin, and digitoxin. The absorption of digitalis materials is not necessarily improved by their purification. Of a dose of digitalis about 20 per cent is absorbed. The same applies to digifoline, which is a purified mixture of the glycosides present in digitalis leaf. Digitoxin is the glycoside of choice for oral use. There are several satisfactory preparations of digitoxin on the market, such as, Digitaline Nativelle-Fougera, Purodigin-Wyeth, and another by Suibb.

Digitoxin is completely absorbed from the gastro-intestinal tract, so by oral administration is essentially the same as by intravenous injection. It is 1,000 times as potent as digitalis leaf by oral administration in man. The full digitalizing dose is, therefore, 1.2 mg. for the average patient. This dose may be given at one time to the patient who has not had digitalis recently. The following day one begins with a dose of 0.2 mg. which is then continued daily for the purpose of maintenance. This may be continued indefinitely. A few require as little as 0.1 mg.; a few as much as 0.3 mg. Digitoxin has the advantage over digitalis leaf in that it is possible to induce the full effects with a single dose given at one time, in a period of 6 to 10 hours; in the place of the fractional dose method by which digitalis is used and which requires from 24 to 48 hours for the full effects. Local gastro-intestinal irritation from digitoxin is negligible.

There is little place for parenteral digitalis therapy. The common practice of injecting strophanthin intravenously has no basis in scientific evidence. In case it is impossible to administer any drug by the oral route because of a gastro-intestinal disorder, or because the patient is *in extremis*, ouabain or crystalline strophanthin is preferable, because it develops its full effects after intravenous injection in two hours. A satisfactory practice is to give an intravenous injection of 0.3 mg. of ouabain, then 0.1 mg. q. 2 h. intravenously until the full therapeutic effects have been established. After the full effects are produced the daily maintenance dose of digitalis or digitoxin may then be continued by mouth.

In case full digitalization is not sufficient to restore adequate compensation, the organic mercurials are necessary, intravenously or intramuscularly. Intramuscularly mercuhydrin is preferable because it produces less irritation. Cumulation of these

drugs is negligible. Begin with a trial dose of 0.5 c.c. If this produces no untoward effect, increase to 1 or 2 c.c. as necessary. The most satisfactory plan is to administer one dose every day. The patient is weighed before each dose. The interval between doses may then be prolonged to every 2, 3, 4, or more days as indicated by the weight record—the longest interval which suffices to maintain the dry weight. In many cases 7 to 10 days injections maintain the dry weight, while in some of the more advanced cases a tolerable state of health can be maintained only by daily injections. The oral tablets of the organic mercurial diuretics are rarely satisfactory. The same applies to the rectal suppositories.

The toxic reactions to the organic mercurial diuretics are greatly exaggerated, and these have invariably followed the intravenous injection. There should be no hesitation in using these compounds where a diuretic is necessary irrespective of the state of the kidney.

A large group of beneficiaries of the organic mercurial diuretics are those who may have no evident signs of edema. Many persons with fairly advanced left heart failure are subject to paroxysms of cardiac asthma or pulmonary edema who, between attacks, show no evidence of venous congestion. The appropriate continuous use of the organic mercurials enables these patients to get on satisfactorily.

The oral diuretics like ammonium chloride or aminophylline are not very satisfactory. They rarely take the place of the organic mercurials in patients who are in need of effective diuresis.

Salt restriction is one of the most important measures in the control of heart failure. The average daily diet contains about 10 grams of salt. Patients in heart failure are often incapable of excreting more than two to three grams of salt a day. They retain salt, so the volume of extracellular fluid increases and edema results.

The most successful way of restricting salt intake to 1.5 grams a day is to limit the diet to a quart of milk a day. This is particularly important in the early management of acute or advanced heart failure. Water acts as a diuretic and several litres of water a day with restricted salt intake will lead to subsidence of edema. Allow patients to take water freely and encourage them to take at least 1.5 to 2 quarts a day.

The vast majority of patients who develop heart failure do so in the course of a chronic disease such as hypertension, arteriosclerosis, rheumatic cardiovascular disease or syphilis. In these the cause is not removed and the failure is not cured. It is, therefore, imperative to evolve a plan of treatment which will not only serve to establish the most efficient state of the circulation but will provide for its maintenance.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

THE RELATIONSHIP OF DENTAL MALOCCLUSION TO VACUUM-OTITIS MEDIA AND THE USE OF DENTAL SPLINTS DURING DESCENT FROM ALTITUDES

THERE is a good deal of scoffing at the idea that poor tooth occlusion can seriously affect one's health; and it may be that more ill health is attributed to this developmental error than should be.

Here is evidence, from a source other than dental,¹ that malocclusion may be more than a trivial or a cosmetic problem.

Among 873 cadets undergoing flights in the chamber, the occurrence of ear pain during descent was correlated with the method used; 34% used the modified Valsalva method, 33% the swallowing mechanism, 13% movement of the mandible, 9.9% combinations of these. The means of ventilating the middle ear led to an investigation of the anatomical positioning of the mandible. The state of dental occlusion in 821 subjects was determined prior to a flight in the chamber and correlated with the ear difficulty encountered during descent.

Ear block during low pressure chamber descents was found to occur five times as frequently in individuals with malocclusion, as in those with normal occlusion.

Another group of 439 aviation cadets and student officers were examined otoscopically shortly after their flights in the chamber. Only 12% of those with normal occlusion exhibited otoscopic changes sufficient to warrant the diagnosis of an acute aero-otitis media. The remaining 88% showed some scattered vascular injection of the tympanic membrane usually with retraction, but without abnormal otoscopic findings.

The fact that ear block occurs more frequently in individuals with faulty occlusion than in persons with normal occlusion suggested that repositioning the mandible might have a beneficial effect in those with malocclusion. This was supported by the finding that voluntary repositioning of the jaw by yawning proved to be the most effective method in middle ear ventilation on descents.

Horse-shoe-shaped dental splints were made of acrylic resin. The intermaxillary distance was increased 8 mm. along the biting surfaces and the width was 12 mm. The splint was retained in the mouth during the entire period of descent, having been inserted at 30,000 feet.

The incidence of ear block occurring on descents during which every man used a dental splint

is 5.2% of those with normal occlusion, 9.1% of those with malocclusion. The dental splints significantly reduced the incidence of ear block only in individuals with malocclusion.

The simplest method for ventilating the middle ear is swallowing. In certain individuals, however, swallowing is ineffective and other maneuvers or a combination of maneuvers are required.

Costen, Wilhelm and Lowry have demonstrated that repositioning the mandible in cases of overbite or loss of inter-dental space, due primarily to loss of teeth, was effective. The use of dental splints in cases of malocclusion with the normal complement of teeth to reposition the mandible proved the effectiveness of such an appliance in ventilating the middle ear. The increased salivation caused by the splint stimulates swallowing which assists in the ventilation of the middle ear.

Advances in the development of the splint permitted self-retention, avoided interference with articulation, and maintained its effectiveness. This device has been developed to fit all types of occlusion and is suitable for passenger use in transport aircraft.

GYNECOLOGY

ROBERT T. FERGUSON, M.D., *Editor*, Charlotte, N. C.

A NEW METHOD OF TREATMENT FOR VAGINITIS AND CERVICITIS

THE AUTHOR¹ has run the whole gamut of medicaments for the control of infections in vaginitis and cervicitis. A critical evaluation of all these medicaments has led him to conclude that the ideal anti-infective agent should be:

As easy as possible to apply by the physician in his office and by the patient at home, because treatment sometimes must be continued by the patient over many days or weeks. Successful results due to patient co-operation can only be expected, if it can be done with the least possible inconvenience.

Buffered effectively so as to promote the re-establishment of the physiologically correct acidity and growth of Döderlein's bacilli consistent with a healthy vagina.

Antibacterial so as to control rapidly persistent infections especially in cervicitis requiring electro-surgery.

Of such a physical consistency as to assure intimate and prolonged contact with vaginal and cervical mucosa. Although present-day water-dispersible jellies have been an improvement over powders and tablets, the ideal base should dissolve in and should approach in physical characteristics (adhesiveness, consistency, wetting powder) the vaginal-cervical secretions.

¹. S. L. Siegler, Brooklyn, in *Am. Jour. Obs. & Gyn.*, July, 1946.

J. H. R. Bierman, Bethesda, Md., and I. W. Brickman, Pensacola, Fla., in *Am. Otol., Rhinol. & Laryng.*, Mar.

Nonirritating and nontoxic, even when used over a long period of time.

Because of the above properties, it should give satisfactory results when used as the single agent of choice in bacterial and protozoal vaginitis and cervicitis of all types.

The author believes that the desirable conditions are most closely approached by an acid jelly, containing sulfathiazole in actual solution, of the following composition:

10.0%	sulfathiazole*
3.0	lactic acid
1.0	acetic acid
0.1	sodium tetradecyl sulfate
85.9	polyethylene glycol

The acid jelly base, polyethylene glycol, has all the desired characteristics for vaginal medication. It is nonirritant and nontoxic, has excellent wetting properties, and maintains its jelly consistency at body temperature. It dissolves completely in the vaginal secretions, and possesses the unique property of dissolving large quantities of sulfathiazole which, in turn, become soluble in the secretions. This last property makes this jelly far more sulfa active than it is possible to obtain with the usual suspensions of sulfathiazole. The jelly is sterile and can therefore be used in packs and tampons post surgically. The pH approximates 4.0, the buffering power is large, and there is no excessive leakage from the vagina unless the discharge is copious.

The method of intravaginal administration of jellies, using a collapsible tin tube and lucite applicator, although preferable to older methods, still entails the unnecessary bother coincident with the transfer of jelly from tube to applicator to vagina and the washing of the applicator by the patient or sterilizing of his applicator by the physician. At the author's suggestion, a single-dose, disposable paper applicator was conceived for use with this sulfathiazole acid jelly.

An acid polyethylene glycol base, such as used in this study, seems to the author to be the ideal base for intravaginal medication available today. While this base alone is an effective antivaginitis medication, the dissolution of 10 per cent sulfathiazole in it seems to enhance its value in these conditions, probably because of its superior action against secondary bacterial infections. This jelly, because of its adhesiveness, its semiliquid consistency at body temperature, and its wetting power, assures maximum contact of the medication with vaginal and cervical mucosa.

It has been found that the jelly can be used with safety over prolonged periods of treatment, although the possibility of sulfa sensitivity should not be overlooked.

Patient coöperation in maintaining daily, and sometimes necessarily prolonged treatment is more easily obtained with the single-dose, disposable paper applicator than with the usual tin tube and lucite applicator.

The jelly is nonirritating, nonstaining, and of agreeable odor. It spreads over the cervical and vaginal surfaces and is completely soluble in the secretions. It does not leak out of the vagina unless the discharge is profuse. It has a mild but definite astringent effect on the vaginal mucosa.

Use of the jelly alone has given good results in the management of cervical infections in 22 per cent of the cases treated.

The period of convalescence has been much shortened, and annoying symptoms reduced by using the jelly before and after conization, coagulation, cautery, plastic repairs, and other intravaginal surgery. Healing was complete within an average time of five weeks with a minimum of sequelae.

*Westhiazole Vaginal, Westwood Pharmacal Corp., Buffalo, New York.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., *Editor*, Charlotte, N. C.

THE COLOUR OF THE HUMAN IRIS

SO ACCUSTOMED are we to associate colour and all its variations with the presence of pigments which vary in their capacity to absorb and reflect light, that it is difficult to realize that colour may be present in the absence of pigment. It is even more surprising to realize that in the light blue of the eye, and the bright blue of the bird's feather, the only pigment present is brown pigment. These are only two familiar examples of colour due to the interference phenomenon of Tyndall—the phenomenon which gives a blue colour to the distant mountains. The light reflected from the dark mountain masses is scattered by the fine particles of moisture in the atmosphere in front of them. As a result of this interference with the reflection of the light rays from the background, the radiant energy reaching the eye of the observer gives rise to the sensation of blue. In the blue iris the stroma interferes with the reflection of light from the brown pigment epithelium to produce the same effect.

Thus O'Day¹ opens discussion of a subject of great interest. And he goes on:

The stroma is by no means homogeneous. Even in the deepest blue iris there are always to be found a number of isolated chromatophores containing melanin. These may be seen with the slit-lamp, and are not aggregated closely enough to give rise to the sensation of brown. On the other hand, they may possibly contribute to the inter-

1. Kevin O'Day, Melbourne, in *Trans. Ophthalmological Soc. of Australia*, Vol. IV.

ference phenomenon. The thick and semi-transparent walls of the blood vessels add their quota, and appears as gray radial lines. The much more cellular iris of the newborn infant has a less brilliant colour. When the iris is inflamed, the presence of exudates in the stroma interferes with its transparency, and the wave-length of the light reflected from the pigment epithelium undergoes a further change. The result is the familiar muddy tinge of the inflamed iris.

The surface appearance of the dark brown iris is quite different from that of the blue. The radial pattern is no longer visible, and the structure resembles that of coarse blotting paper. The colour is due to a dense but thin network of chromatophores in the superficial layers of the stroma. This network is very thin, much more so than the layer of pigment epithelium. Beneath it the stroma varies little from that of the blue iris.

Very rarely, even in a dark brown eye, is the anterior pigment layer uniformly distributed. In many places the translucent stroma is seen peeping through. The variation in colour from green to dark brown is brought about by the variation in density and distribution of the pigment in the superficial layers. Careful examination with the loupe or the slitlamp will often reveal all these variations in the one iris. Often the blue eye will present many specks of brown on its surface without the general effect of blueness being impaired. As the aggregation becomes denser, a green colour appears and then all the shades of brown. A thin meshwork of brown in the region of the lesser circle will also give the appearance of green.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

LOW BACK PAIN

THOUSANDS, "down in the back," have taken Doan's kidney pills, or had uterine suspensions. Most articles in medical textbooks and journals on this subject leave much to be desired.

Torrance¹ has written an exceptionally helpful article, which is abstracted in extenso.

A careful history is the first step; onset sudden or gradual?, any recent or old accident?, does the pain shoot down the leg or radiate elsewhere?, accentuated by coughing or sneezing?, worse morning or night, on a cold, wet day or no difference?, worse when standing, sitting or lying?

How are the teeth?: any chronic sinus infection? Has the patient lost weight? Chronic cough?—look for tuberculosis of the spine. Any lumps in the breast? Breast cancer metastasis to spine? If the patient constipated?—many backaches are

¹. C. C. Torrance, Jamestown, N. Y., in *Miss. Val. Med. Jl.*, Oct.

the result of a full colon. How many pregnancies? Obstetrical care adequate? Irregularities in periods; discharge; gonorrhea?

A complete physical examination, noting any deviations of the spinous process. Spot the tips of the spines with a skin pencil and stand off and look at them. Slight percussion with a rubber hammer on each spinous process will often elicit tenderness of one or more, over a ruptured disk; spasm of the back muscles on either side; list to one side or the other; limitation of normal motion? If the sacro-iliac joint is involved the line of the joint which is easily felt with the fingers will be tender.

Tenderness along the sciatic nerve indicates involvement of this structure. Try deep percussion with the doubled fist in each costo-vertebral angle. Tenderness here usually means infection in or about the kidney.

With the patient on his back on the table test his ability to raise the legs. Raise the thigh with the knee bent until the patient complains, then extend the lower leg on the thigh until the patient complains of pain in the back of the leg. Then, holding the leg in this position, sharply dorsiflex the foot at the ankle. The patient will experience a sharp pain if the sciatic is involved. The knee jerks and the ankle jerks should be tested with the patient kneeling on a stool. Give a light blow with a hammer on the Achilles tendon.

Is there evidence of arthritis elsewhere in the body? Is there pus in the prostatic secretion? Any indication of cancer of the prostate? Of the breast? Are the arches flat?

Examine urine for sediment under the microscope. Red blood cells in the urine may indicate a malignancy of the kidney or a calculus in the pelvis of the kidney. Bence-Jones protein indicates multiple myeloma. Chronic nephritis rarely presents itself with a complaint of backache.

An x-ray picture of the region is indicated if there has been any history of trauma or accident to the spine, or pain is too severe to permit adequate examination where the diagnosis is not apparent from other examinations.

Fracture of an articular facet may be missed in routine x-ray examinations. It can produce backache of long standing and it should be sought in oblique views of the spine. Fractures of a lumbar transverse process are not uncommon. They are produced by: 1) a direct blow over the lumbar region, or 2) the sudden violent contraction of the attached muscles usually when the patient is attempting to save himself from a fall. Recently some have injected procain in the region of the fractured transverse process, repeated on the 2nd, 5th and 8th day; and the continuation of light duty during the period of convalescence.

Osteomyelitis of the lumbar vertebrae should be

suspected and sought for in any case of boring pain in the back with fever.

Sacroiliac sprain occurs frequently. There is usually a history of sudden sharp pain in the joint coming on when the patient has stooped over to lift. The joint will be tender to palpation. Prepare six or eight strips of adhesive, 2 in. wide and long enough to run two-thirds of the way around the hips. With the patient standing, start the first strip over the crest of the ilium. When it is firmly adherent pull it as tight as possible and carry it around the opposite thigh, just below the trochanter. The next strap should be started over the opposite iliac crest and cross the first one in the middle of the back and be attached to the opposite leg. The third strap should run from the iliac crest to iliac crest parallel to the floor and the additional ones overlap this down the back. The strapping should be as tight as it is possible to make it. Many of these patients will require a sacroiliac belt for support after the acute phase of the illness is over. Such belts should be put on before the patient gets out of bed in the morning and laced as tightly as possible.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

THE DIAGNOSIS AND TREATMENT OF PERNICIOUS ANEMIA

THE WORKING OUT of the successful management of pernicious anemia is one of the major triumphs of medicine. An excellent description of this modern diagnosis and cure—in the proper sense of successfully "caring for"—is that of Haden.¹ The essentials of this article are passed on to our readers.

The achlorhydria and the macrocytosis of the red cells are the two constant findings in untreated pernicious anemia. As the disease progresses more immature cells—poikilocytes, megaloblasts, and normoblasts appear. The reticulocyte count is low. The leukocyte count is below normal and the white cells in the circulation tend to show increased lobulation. With adequate specific therapy the reticulocyte count rises sharply showing that the erythrocytes are being matured in the marrow. With complete treatment the blood returns to normal and remains so. The one constant abnormality when the disease is active is the macrocytosis of the red cells. It is the earliest variation from normal to appear and the last to disappear. It is by far the best criterion of the completeness of treatment. All untreated patients in a series of 558 patients with pernicious anemia have had a macrocytic anemia, and often only the macrocytosis. No correctly and completely treated patient shows macrocytosis.

There is probably always some degree of neuritis, usually some degeneration of the tracts of the spinal cord, and at times cerebral symptoms from involvement of the brain due to a deficiency in the nutrition of the nervous system, paresthesias of the hands and feet, incoordination or spasticity. The most common finding is a loss of vibratory sense in the lower extremities. Abnormalities in the reflexes and position sense are symptoms in many cases.

Since liver preparations of different manufacturers vary, it is wise to select one good extract and use this with all patients.

The method found uniformly satisfactory is the following schedule:

First two weeks daily injections of 1 c.c. of a potent extract containing 15 units per c.c.

Next three months period twice weekly injections of 1 c.c. of the same extract.

Next three months period weekly injections of 1 c.c. of the same extract.

Remainder of the patient's life monthly injections of 1 c.c. of the same extract.

Recent work on folic acid suggests that this substance may be the factor which is responsible for the specific effect of liver and liver substitutes. If this proves to be true the treatment of pernicious anemia will be simplified.

The neurologic signs and symptoms improve much more slowly than the anemia. If progress is not satisfactory, injections should be continued at weekly intervals indefinitely. A patient may be completely crippled due to an extensive cord lesion and still regain use of the legs and walk satisfactorily. Seldom is the vibratory sense completely regained—some paresthesia is apt to persist. A neurologic lesion should never develop or progress in an adequately treated patient.

The treatment of any deficiency disease is influenced by certain intercurrent diseases, especially infections. More intensive therapy should be given if such occur.

One troublesome complication is the development of allergic reactions, principally hives, following the injection of liver extract. Most extracts are made from hog liver. Others are made from beef, horse and sheep products. If difficulty is expected, different extracts should be tried. Haden has not seen a patient who could not take some potent extract. Mild reactions may be controlled by giving small doses of adrenalin with the liver extract.

Iron is seldom required unless needed for some reason such as blood loss, apart from the pernicious anemia.

It is doubtful if added vitamins influence the neurologic lesions, if liver therapy is given properly and intensively and an adequate diet is eaten. Hydrochloric acid is seldom needed.

¹ L. R. Haden, Cleveland, in *Jl. Okla. State Med. Assn.*, Sept.

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

SUDDEN DEATH IN OBSTETRICS

THOSE of us who have not had mother and unborn, or newly born, child die under our care have not experienced the utmost poignancy of the experiences of medical practice. The Liturgy puts up a special petition against sudden death, from any cause, and then repeats with an urgent appeal for Divine help in time of travail.

Here is a review of our knowledge of how to withstand this combination of tragedies.¹

Of sudden death in the obstetric patient the causes may be reduced to obstetric shock, hemorrhage, a combination of shock and hemorrhage, and accidental. Shock as the cause of sudden death in the obstetric patient comprises the largest group. The relative frequency appears to be a) preeclampsia toxemia with or without the factors of anesthesia, surgery, trauma and blood loss; b) dystocia from any cause followed by exhaustion, dehydration, difficult forceps and blood loss; and added by the writer from his experience and observation—c) anaphylactoid reactions following blood transfusion and drugs.

The writer has seen fatal anaphylactoid reaction from intravenous sulfanilamide, blood transfusion, and two cases in which ergotrate had been given. He has seen profound shock follow the administration of one minim of pitocin which no doubt found its way into the blood stream. It takes but a few minutes to make an intradermal test for sensitivity. Recently 100 intradermal tests with ergotrate have been made on the delivery table, resulting in 98 negative reactions, one 2-plus and one 1-plus positive reactions. The patient showing the 2-plus reaction might have had serious consequences had ergotrate been given intravenously, as is the routine with some obstetricians.

Hemorrhage in obstetrics appears to be a *seldom* cause of death as compared with Groups 1 and 3. It comprises a) postpartum hemorrhage from uterine atony—from any cause; b) extensive cervical lacerations; c) ectopic pregnancy; d) spontaneous separation or manual removal of the placenta in abdominal pregnancies, and e) manipulated placenta previas.

How fortunate it will be for the parturient when the profession dispels the textbook fear and becomes convinced that patients with unmanipulated previas *very, very seldom*, if ever bleed to death. The bleeding is not constant but intermittent, and enough so to allow for the natural replacement of necessary blood volume. It is surprising how often the autopsy findings show that not hemorrhage, but shock, has killed.

Among the many causes of accidental death are pulmonary embolus, pulmonary atelectasis due to aspiration of vomitus or mucus, air embolus, acute dilatation of the stomach, congestive heart failure and rupture of large extra-genital vessels or aneurism.

The prevention of shock is more availing than its treatment. To the obstetrician and anesthetist a falling blood pressure and an increased pulse rate are ominous; effective prevention requires an obstetrical creed. This creed is offered:

I believe:

That the average obstetrical patient is a well person, and the judicious use of analgesics and anesthetics are indicated, but that toxic substances predispose to obstetric shock.

That all drugs (oxygen and glucose excepted) which may be used during labor and at delivery are poisonous and predispose to shock.

That any drug capable of producing an allergic wheal when injected intradermally is capable of producing shock and death when given intramuscularly or intravenously to the sensitive patient.

That such a degree of toxemia as does not produce obstetric shock alone is capable of causing shock when combined with one or more of the following: trauma, rapid loss of blood, anesthesia, pituitrin (and probably ergotrate and other oxytocics), rapid loss of intraabdominal pressure, dehydration and exhaustion.

That the unprepared obstetrical patient is a general anesthetic hazard because of the danger of aspiration of food and mucus.

That the rapid reduction of intraabdominal pressure is a frequent cause of obstetric shock but probably has to occur in combination with other causes to be fatal.

That extreme anxiety or fear predisposes to obstetric shock.

That diastolic pressure only slightly above normal on admission may rise during labor to a point indicative of severe toxemia before the patient goes to the delivery room.

In the treatment of shock determine as quickly as possible whether hemoconcentration or hemodilution is present; one indicating obstetric shock from toxemia or drugs, the other shock from loss of blood. Equally important is the realization that the road-block in shock is in the capillovenule areas of the viscera where extensive vascular dilatation has taken place. The rest of the vascular system is in constriction. To send traffic into this road-block with more force, as might be done with digitalis, adrenalin, caffeine, metrazol, voluminous fluids, and so forth, would only add to the jam. Three remedies only appear to have rationale in their use: 1) continuous oxygen as cell anoxia increases the shock; 2) blood plasma; and 3) adrenal cortex.

¹ H. W. Johnson, Houston, in *Arizona Med.*, July.

The treatment of shock from hemorrhage is mainly prevention. By keeping in mind the several common conditions which predispose to postpartum bleeding—multipara, twins, large babies, polyhydramnios and fibroid uteri—many measures may be taken to prevent such blood loss as to cause shock.

Excessive bleeding may be controlled by ligature or pressure, control by pressure is preferable to fumbling around in search of the bleeding point. With vaginal retractors and sponge forceps the pelvis is rapidly packed. *The amount of gauze used should equal the volume of the baby's head.* The patient's extremities are now taken from the leg holders and a snug abdominal binder is applied, using wide adhesive tape. The pelvic pack exerts pressure on any bleeding point in the pelvis, and it also holds the uterus out of the pelvis where, at this stage, it belongs. Binder and pelvic pack may be removed after 12 hours.

In shock from hemorrhage, the upper part of the body should be lowered to help counteract the element of syncope, blood volume increased by hypertonic solutions and this replaced by whole blood at the earliest possible moment.

Utero-placental apoplexy very often gives warning. Pain in the abdomen, painful fetal movements, increased frequency of Braxton-Hicks contractions and tenderness over a given area of the uterus are significant, and especially so if combined with hypertension. This combination of signs and symptoms requires absolute bed rest and large doses of Vitamin E. If this treatment does not produce marked improvement and the baby is well within the realm of viability, abdominal section should be done in the interest of both mother and baby. Massive ablation of the placenta should not be awaited. If massive separation has already taken place, it is urgent that the patient be given relief from pain by whatever amount of opiates is necessary. The membranes are then ruptured, and since the patient dies more often from shock than from hemorrhage, plasma is indicated. The necessary blood transfusion may be reserved for the secondary anemia which rapidly develops.

In rupture of the uterus, death is more apt to be from shock than from hemorrhage. This results from obstructed labor with its consequent exhaustion and trauma, not commonly seen today. The rupture that confronts us today is the former cesarean section case. Here it is important to detect the earliest signs and symptoms and operate before the rupture becomes complete. In addition to prompt surgery, blood replacement is indicated and not plasma.

Sudden death from retained placenta would scarcely happen if the condition were left to itself. If the placenta has not separated after 30 to 40 minutes from the end of the second stage of labor,

it is permissible to invade the uterus. Delivery room conditions suitable, the attendant having proper experience, and the placenta separable, it is removed. If inseparable, the patient should not be subjected to further shock-producing manipulations. Further operative measure should await the proper time.

CLINIC

ON JANUARY 27th, 1934, a 23-year-old housewife was referred to me by Dr. W. K. McCain. She complained of trouble in walking and stated that for the past year she had had difficulty in walking in a straight line. There was no real staggering, but she zigzagged in walking. The deviation was not constantly in one direction. No marked progress of her trouble was noted until a month before she consulted me, when she noticed a tickling sensation in the front of both knees, worse on the right side, like insects crawling over her skin. This lasted for 2 weeks; then she got numb in both legs from her knees down, worse in the toes and on the right side. This spread upwards till she became numb to some degree up to her waist. She feels as if her feet were asleep, and has got to stagger badly. Her leg muscles feel stiff to her. She has noted no visual disturbances.

She has had no pain other than slight backache, that is no worse than she had often had before. It is not constant—really only occasional. She has noticed no trouble with her arms or hands, and can sew or write as well as ever. However, when she started to unfasten her dress in Dr. McCain's office the other day he told her he thought she had some trouble using her hands. No dizziness or tinnitus. Rather constipated—takes an occasional dose of salts. No sphincter trouble. Her feet feel swollen to her, but don't look so. No headache. Her backache is lumbosacral and occurs especially near her periods. No acute infection at onset of trouble. Dr. McCain reports a blood Wassermann examination as negative. Her husband has noticed that she has been getting pale and yellow. There are no other symptoms of importance.

Her past history is non-contributory, as are her habits (no tobacco or alcohol), and her family history.

Physical examination showed Ht. 5 ft. 2 $\frac{3}{4}$ in. Wt. 111 $\frac{3}{4}$ lbs. (Standard wt. 121 lbs.) T. 98.4. P. 88. R. 22. B. P. 120/70. She had to be helped into office by her husband. Her gait is not a typical scissors gait, but is more ataxic in nature, though it does not show the gross incoordination of tabes. There is a definite Romberg sign in that she will fall if not caught, but she does not sway widely. Vision 20/30 in both eyes with astigmatism. Cranial nerves normal. Face has a yellowish tinge and mucosae are pale. Head otherwise negative. Neck

and chest negative. Spine shows no tenderness or bulging, but percussion anywhere over lumbar spine causes adduction of thighs, an apparently new reflex, hitherto undescribed. This is very constant. Biceps reflexes normal, but both patellars are extremely exaggerated; anesthetic for light touch and pain from her waist down, in front only. She has lost the sense of heat and cold from the middle of her thighs down, in front only. There is a definite Babinski on both sides, ankle clonus on the left only, sense of position normal. There is slight ataxia in the finger-to-nose test on both sides, but hardly enough to be significant. Ophthalmoscopic examination is negative, urine negative. Hemoglobin 55%, red-cell count 3,500,000, absolute white count not made, but a smear showed a normal appearance and normal differential count, except for the anemia. No blasts were found, but there were marked aniso- and poikilocytosis.

A tentative diagnosis of pernicious anemia was made and she was put on extralin and dilute hydrochloric acid. Four days later she returned for a check-up and the level of her sensory symptoms had risen to her nipples. She was referred to Dr. Deryl Hart at Duke as a cord tumor patient.

Two weeks later she was operated on at Duke by Dr. Hart. Lipiodol injection had shown a block involving the 4th and 5th thoracic vertebrae. The vertebral spines in the region of the block were marked with methylene blue. Since entering Duke Hospital a little incontinence and some sensory disturbance posteriorly had developed. The spinous processes were removed from the 3rd to the 6th thoracic vertebrae, inclusive. An extradural tumor was found. A frozen section showed an endothelioma, benign if it should be possible to remove it all. It was very adherent, and had grown around the cord anteriorly, and was difficult to remove. The dura in the region was removed and the cord covered with fascia after removal of the tumor. It was necessary to cut one sensory root.

Final Diagnosis — Extradural endothelioma of thoracic spinal cord complicated by a moderately severe secondary anemia.

The patient improved to a marked degree but some years later her trouble recurred, she consulted someone else, but I understand that nothing much could be done for her, though palliative x-ray treatment was administered. No one who saw the patient could explain the absence of pain, or the significance of the thigh-adduction reflex.

Frederick R. Taylor, M.D.

AS EARLY AND AS ENERGETIC AS THE PATIENT WILL SUBMIT

TO

(E. P. Maynard, Jr., & Claire Ling, in *Bronxville Hosp.*, Jl., July)

With no treatment or practically none, cardiovascular syphilis developed in five times as many syphilitic patients, as in those "adequately" treated by courses of injections

of arsenicals and heavy metals. When treatment was administered six or more years after the appearance of the chancre, four times as many patients developed cardiac disease as when treatment was completed within three years after the date of the chancre. Aortic insufficiency and aneurysm appeared much more frequently among the patients who had little or no antisyphilitic treatment.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N.C.

THE ADEQUATE TREATMENT OF GONORRHEA

THE LATEST information on the proper management of patients with gonorrhea is given briefly and in a direct way by Heller.¹ A condensation is passed on to our readers.

Penicillin is an effective therapeutic agent for gonorrhea and, with the penicillins as now produced, satisfactory results may be expected with a total dosage of 200,000 Oxford units or more. The major question remaining: What is the best schedule for administering? The most desirable schedule would be one which allows the patient to remain ambulatory and would combine safety, convenience and a minimum of discomfort for the patient.

Two treatment schedules were studied: one that could be completed in two hours and another that required three hours. There were 396 patients studied, 248 white and 148 colored, 108 male and 288 female. In all cases the diagnosis was confirmed by a positive culture; 83 per cent were observed 10 days or longer, 17 per cent from six to nine days. To be considered cured the patient had to be without signs or symptoms and three or more cultures — all negative — had to be yielded during the observation period.

1. J. R. Heller, Jr., Washington, in *Jl. A. M. A.*, Aug. 31st.

On the two-hour schedule 255 patients received 200,000 units of sodium penicillin in 6 c.c. of water in three intramuscular injections: first 50,000 units, after one hour 50,000 units, after two hours 100,000 units.

On the three-hour schedule for 141 patients the same total dosage intramuscularly given as follows: first 40,000 units, after one hour 40,000, after two hours 40,000, after three hours a final injection of 80,000 units.

No patient showed evidence of toxic reaction. The short treatment was acceptable to the patients and to the medical and nursing personnel.

Among the patients observed 10 days or longer, 94 per cent were cured on the two-hour schedule and 96 per cent on the three-hour schedule.

These results approximate those reported in a study of 1,060 cases treated by a single intramuscular injection of 200,000 Oxford units of calcium penicillin in peanut oil and 4.8 per cent beeswax.

In this series of 1,060 cases statistics did not

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CASE REPORT

ENTERIC-COATED MEDICATION INEFFECTIVE
ERNEST L. COPLEY, M.D.
Richmond, Va.

THE FOLLOWING CASE is illustrative of the at least occasional ineffectiveness of medication with remedies coated with a substance allegedly impervious to the gastric juices, but soluble to those of the intestine.

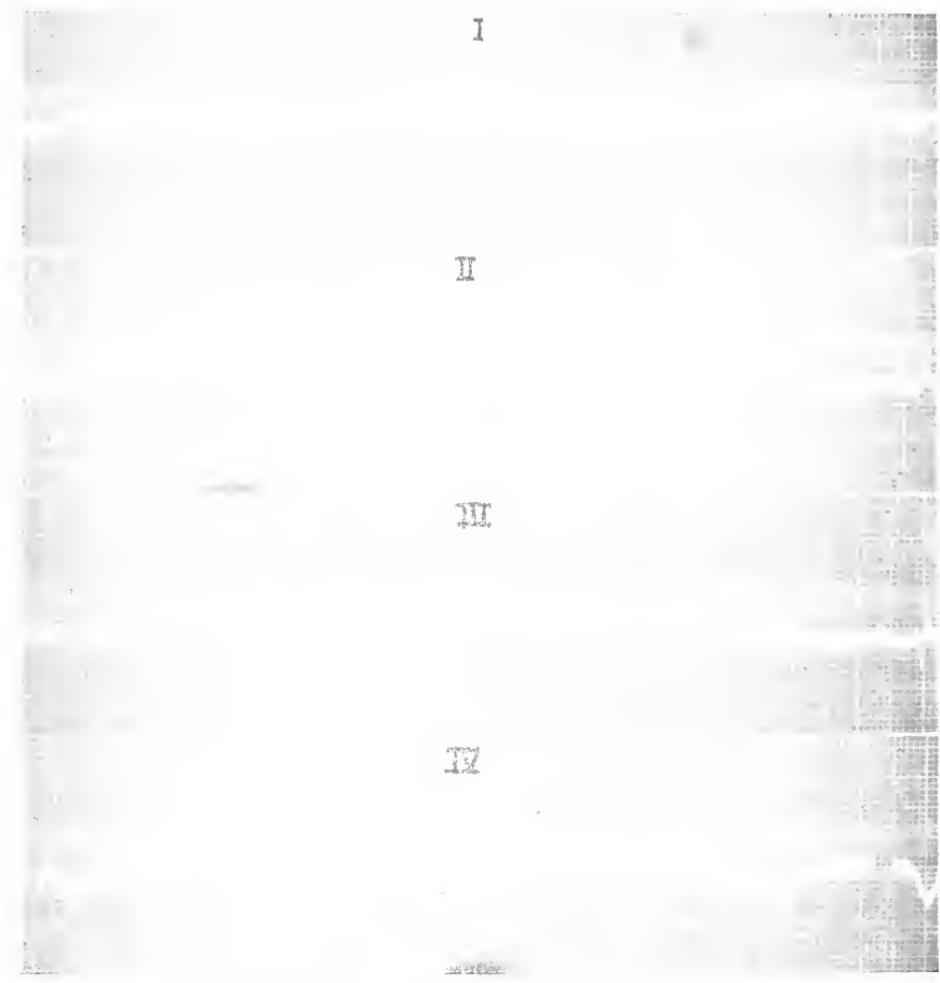


Figure 1

Auricular fibrillation (1900). Mild left axis deviation, notching and slurring in all leads. S-T segments: ton. PR interval 0.18 sec. QRS duration 0.12 sec. QRS com.-slightly depressed in leads 1, 2 and 4; isoelectric in lead 3, plex. Upstroke in lead 1, upright and of low voltage. T waves: inverted in all leads. lead 2, dipole or low voltage and mostly inverted, in. Diagnosis: Hypertensive and arteriosclerotic heart disease. lead 3, equiphasic in lead 4, relatively large Q wave in with coronary insufficiency.

episode he called his family physician, who referred him to a consultant, who diagnosed the condition coronary thrombosis, and informed the patient he had had coronary thrombosis with occlusion at an earlier date; and prescribed complete bed rest for a month, cessation from work thereafter, and some pills t.i.d. and h.s. This regimen was carried out for three months after which work was resumed. Two-and-a-half months later came another attack, this time more persistent and agonizing than before. The patient felt he would die if the agony continued. Following the seizure he repeated the previous regimen of bed rest and again after three months returned to work. He had been working three weeks when he consulted me.

During the nine-months period he stated he had taken the prescribed pills continuously but did not feel his condition had improved. Except for the two episodes of acute pain there had been little change in the course of his illness. He had fewer pains when resting but continued to have discomfort on exertion. He concluded there was some hitch in his treatment.

Examination of the heart revealed generalized hypertrophy. The maximum apex impulse was felt in the 5th i.c.s., 12 cm. to the left of the midsternal line. The rhythm was regular with a rate of 70. Blood pressure was 170/92. The sedimentation rate was 8 mm. for the hour. The red and white blood counts, Wassermann and urine examinations were negative. An electrocardiogram was advised (Fig. 1).

DISCUSSION

I do not believe this man had had a frank coronary thrombosis with occlusion. The Q wave in lead 3, I think, belongs in the category of the equivocal, for the reason the Q wave is absent in lead 2 and the R wave is present in lead 4. He had definite angina pectoris, with consequent myocardial damage. A guarded prognosis was given.

TREATMENT

Aminophyllin, grs. 3, with phenobarbital, grs. $\frac{1}{4}$ (plain); t.i.d. and h.s. was prescribed. Improvement was marked. At the end of a week the patient reported complete relaxation, and the disappearance of chest pains. It was then learned the pills he had taken were enteric-coated aminophyllin, grs. 3, with phenobarbital, grs. $\frac{1}{2}$, instead of a $\frac{1}{4}$. I believe the explanation for his failure to improve under treatment with the enteric-coated pills was that these pills were not digested. I think it wise to change the form of medication whenever satisfactory improvement does not follow enteric-coated medication.

joyment beneath the level of a rational being."—Wm. Beaumont.

INTRAVENOUS INJECTION OF BENZEDRINE SULFATE TO OVERCOME ACUTE BARBITURATE POISONING

(A. W. Freireich and J. W. Landsberg, in *J. A. M. A.*, June 22nd)

Clinical reports suggested to the authors that benzedrine sulfate (racemic amphetamine sulfate) would be a suitable antidote to this poison because its central stimulant effect specifically counters the soporific action of the barbiturates; and because its sympathomimetic activity produces increases in blood pressure, rate and depth of respiration, and pulse rate—all this without incurring the risk of convulsions such as often occur when picrotoxin is administered in the amounts necessary to overcome barbiturate narcosis.

Promptly on admission 14 patients in coma from an overdose of barbiturates taken with suicidal intent were examined to determine pupillary and deep tendon reflexes, pulse and respiratory rates, and blood pressure.

Each was then given by vein racemic amphetamine sulfate, 10 mg., in 1 c.c. sterile aqueous solution, made isotonic with sodium chloride.

The authors later found that they could give larger initial doses with safety. In some instances, therefore, they started treatment with 40 mg., and continued with 20 mg. doses every half-hour until a favorable response was obtained.

Observations of blood pressure and pulse rate were made just before and after each injection. Except in two cases, benzedrine was the only drug employed to overcome barbiturate intoxication. One of these patients had received a small amount of picrotoxin prior to the authors' observation.

In all cases, benzedrine sulfate therapy brought about an immediate rise in blood pressure, with an increase in the rate and fullness of the pulse. Injected intravenously in amounts totalling from 20 to 400 mg., the drug roused 13 of the 14 patients from coma and restored their reflexes in from 30 minutes to eight hours. Despite the massive doses the authors report no ill effects except slight headache in one case. Two of the patients developed symptoms of pneumonia, but in one case these disappeared after the administration of antibiotics. Thereafter, the patient's recovery was an uneventful as that experienced by the others.

The single failure in this series is attributed by the authors to their inability to replenish quickly their supply of ampul solution benzedrine sulfate at a crucial stage of treatment. When the ampul supply gave out, the patient had received 360 mg. in half-hourly injections of 20 mg. Treatment was continued with caffeine with sodium benzoate, ephedrine, and, when pneumonia developed, with sulfadiazine and penicillin. But the patient died on the second day after admission to the hospital.

The authors tell us the reciprocal pharmacologic action of amphetamine sulfate and the barbiturates allows for the use of much larger doses of amphetamine than one could administer to a person under normal physiologic conditions. One of their patients was given 400 mg. of amphetamine intravenously, yet no serious toxic effects were noted. The hyperthyroidism of one patient was not adversely affected by the use of the drug.

"No doubt," say they, "some of the patients, if undisturbed, might have had a long sleep and awakened none the worse for their experience. . . . The shallow respiration of the person in deep sleep makes him a potential candidate for pulmonary complications, and shortening the period of sleep, even though it may not be essential to preserve life, is desirable."

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

LIBERAL ARTS EDUCATION FOR PHYSICIANS

WITHIN the past month a father consulted me on the educational course to be chosen for his son who wishes to make his living as a doctor of medicine. My unhesitating advice was that he choose the bachelor of arts course.

At that time Cole's¹ discussion of this subject had not come to my attention. This discussion agrees so entirely with my opinion as to evoke my enthusiasm.

During the past 50 years we have accumulated vast wealth. But as a people we have failed to increase human happiness, to elevate human dignity, to deepen human spirituality. We still think in terms of the efficient rather than the beautiful, the quantity rather than the quality. The golden age of human experience is still in the future and will convince all but the most cock-sure that not all knowledge, happiness above wealth. Those should be among the objectives of all education from the grammar school through the university. The young person in college on his way to become a physician is no different from his classmates who are headed in other directions. They all need the same kind of general, all-around, liberal education.

Liberal education is a continuing process. As colleges revise their curricula for postwar needs, there is little doubt that liberal education will become the aim, instead of specialized or technical education. May those in charge of students on their way to medical school take the lead in this important reversal of a dangerous tendency.

We abhor the word "premedical." We use it here only to condemn it. It does not appear anywhere in our catalogs or other official announcements. We think of our students as being prepared for life in its broadest sense, for medical school only incidentally.

The content of the college program for students who plan to study medicine later should be similar to that for all bachelor candidates. A liberal arts education implies an acquaintanceship with all the major fields of knowledge. Briefly expressed these may be condensed into the usual categories of 1) the humanities—art, music, language, literature and philosophy; 2) the social studies—history, political science, economics, sociology, psychology and social geography; and 3) the sciences—mathematics, astronomy, physics, chemistry, geology and biology. It should be emphasized that knowledge of the sciences is considered of equal importance to knowledge of the humanities and of the social studies. Science is just as liberalizing as language or history, and is desirable for the pure arts as well.

¹ L. Wm. H. Cole, Rutgers University, in *The Scalpel*, Aug.

We favor some concentration or a "major" in one of the categories. Instead of requiring about 40 hours in each category we recommend about 30 hours each in two categories and 60 hours in the other. As a rule concentration for the student who is to be a physician should be on either biology or chemistry, although permission to major in the humanities or the social studies should be granted him, provided he presents a good argument for it.

It is deeply gratifying to see emphasis placed on the increase of happiness as the chief objective of education. Indeed, success and happiness are interchangeable terms. Here it is well to make the point that money, or even fame, is no more the equivalent of success than is a life devoted to pleasure anything akin to one filled with happiness. Happiness is not to be attained by assiduous, direct endeavor. It is a by-product, a sort of honorary degree, not to be applied for, but awarded.

I am indebted to Thomas Huxley for having taught me that education is the process which enables a person to make himself do what he should do, however disagreeable it may be at first.

And it is well for all to reflect on the fact that the main objective of education is to enable the individual to live, not to make a living.

Reading medical journals and textbooks of a century ago and comparing them with those of today convince all but the most cock-sure that not all change in medicine deserves the name of progress.

ABOUT THE PROPOSED FOUR-YEAR MEDICAL SCHOOL AT CHAPEL HILL

ALL OF THOSE who might be interested in this matter are acquainted with the progress of events in this connection up to and including the majority report of the National Committee for the Medical School Survey.

Not all of those interested are acquainted with the minority reports and the report of Dr. W. S. Rankin, member of the North Carolina Medical Care Commission. These latter reports fully support opinions entertained and expressed by this journal over many years, which may be summed up in a sentence: (1) North Carolina has no need for a third four-year medical school; (2) If those of the contrary opinion can bring about the establishment of a third four-year medical school in North Carolina it would be the lesser evil to establish this school in one of the cities of the state.

So far as this editor knows, no one has ever answered his questions: (1) Would a diploma from a medical school in a village of 5,000 inhabitants be accepted by Medical Examining Boards as admitting to their examinations? (2) Would those wishing to study and practice medicine choose a medical school whose diploma would not admit to examination from the Atlantic to the Pacific, from the Great Lakes to the Gulf?

As to the urgent need for more hospitals in North Carolina, the editor again calls attention to the fact that the death rate is not as high in the counties of the state which have no hospitals as it is in those counties having hospitals, and this despite the fact that the average age of the inhabitants of the no-hospital counties is considerably the higher, which, other things being equal, would make the rate in the no-hospital counties higher.

Finally, it is astonishing to find in most, if not all, the expressions of those strenuously advocating the four-year school at Chapel Hill questioning of the intelligence and/or the integrity of those who hold other views. There is entirely too much lifting of eyebrows, too many insinuations that those who dare oppose the will of these zealous, but misguided persons, are not disinterested nor unprejudiced.

What motive, pray you, other than a disinterested, earnest desire to best serve our people, could possibly actuate any one to oppose himself to a movement for which such a popular, albeit frothy, sentiment has been worked up?

For centuries there has been in the British Parliament an organization honored as His Majesty's Loyal Opposition. Maybe that explains why, for saving the world, Britain could put forth a Churchill, while the best we could offer was a Roosevelt.

MARGINS OF MEDICINE

IN OUR CONCERN about government encroachment on the field of private practice, we sometimes forget the less dramatic, but just as serious and much more preventable, erosion of the marginal healing disciplines into the area of medicine. These marginal activities are the quasi-medical practices which haunt the fringe of the profession. Tackling the latter problem is perhaps the job of organized medicine and the law enforcement agencies; but the individual doctor has a role in defining the place of the first group.

So a wise and alert editor opens discussion¹ of a large subject.

And he goes on:

One reason for our failure to hold the line against these encroachments is that each doctor views with little concern the work of laymen in the fields outside his own.

An astonishingly varied list it is—optometrists, masseurs, commercial laboratories, and counter-prescribing druggists; lay administrators of supervised high colonic irrigations, chiropodists who treat club feet and dermatoses; amateur psychologists who glibly dispense psychiatric advice; enthusiastic first-aiders who gallop to the scene of an accident prepared to insert a suture or set a frac-

¹. Editorial in *Jl. Med. Soc. N. J.*, Aug.

ture: not to mention operators of gymnasias who offer, for a small consideration, to put on weight or take it off, or who promise, with equal confidence, to build muscles or poise.

Against these practitioners the individual physician can do something. He can report their unauthorized activities to the State Board of Medical Examiners. He can realize that, whether or not it is his own ox that is gored, the problem is one that merits his attention. He can mount the platform and talk to the public on the scope of the marginal practitioners. Perhaps his greatest educational weapon is conversation with patients and lay friends. Thus, he should urge the friend or patient to "see an M.D. who specializes in eye diseases" rather than just "an eye doctor" (because the layman thinks of the optometrist as an "eye doctor"). Similarly he can ask, "Were these glasses prescribed by a physician or just an optometrist?" The idea will sink in. He should indicate that he is sending the patient to a doctor who specializes in x-rays, not "to an x-ray man." When he wants a laboratory test, let him tell the patient, "I am sending you to Dr. X, a physician who specializes in these tests," rather than "I'll send you to a laboratory." Keeping the medical garden free of weeds requires eternal vigilance.

Some two or three years ago the editor of this journal wrote the Secretary of the N. C. Board of Medical Examiners, enclosing a copy of an advertisement, which was (and still is) appearing daily in a newspaper offering to do what was plainly the practice of dermatology by one who claimed only to be a registered nurse. The answer said this practice was with the consent of a dermatologist. Well, what of it? Who gave the dermatologist the legal right to authorize the violation of the Medical Practice Act of the State of North Carolina?

Some six months ago there came through the mails a card from a doctor of philosophy offering to "help" with the management of problem cases. Presumably this help was to be rendered for fees. For months articles have been appearing in the Sunday issues of a local paper, under the name of this Ph.D., discussing about all the diseases of the nervous system. A tender of the card and information to the secretary and to the president of the State Board of Medical Examiners brought response, but what sort of response? As far as the slang term is understood in this office, it was "the brush-off."

Let us hope our Jersey editor will fare better.

Proceedings of the Medical Society of Ashe and Adjoining Counties for Meeting May, 1888

The Medical Society of Ashe, and adjoining counties, met at Jefferson May 29th, 1888.

The following members were present:

E. F. Foster, H. C. Jones, T. J. Jones, R. W. Jones, J.

O. Wilcox, Geo. I. White, R. W. S. Pegram, J. H. Barten, L. C. Gentry, C. W. Phipps, L. L. Cox and I. W. Colvard, and proceeded as follows:

It was moved and carried that the proceedings of the March meeting be accepted.

It was moved and carried that each member of this association is requested to present his medical accounts within six months after they are made, and at the end of twelve months is required to do so, and demand settlements of said accounts in some satisfactory manner.

It was moved and carried, that we have a Fee Bill, which was fixed as follows: For ordinary diurnal practice 50c per mile, nocturnal per mile \$1.00. Obstetrical \$5.00 if the distance does not exceed six miles, after which, 50c per mile additional is to be charged. If instruments are used \$7.50. If extra instruments are used and any dissection of any parts it shall be not less than \$10.00. For a prescription, no one should charge less than 50c.

It was moved and carried, that for all practice, under three miles, \$1.00 for prescription, be added. Objects of charity must have attention, regardless of the above rules.

It was moved and carried that the secretary be authorized to have 300 copies of the proceedings of this meeting printed and sent to the members of this Society. The meeting adjourned to meet Aug. 21st, 1888.

J. O. WILCOX, President
L. C. GENTRY, Vice President
L. L. COX, Vice President
J. W. COLVARD, Secretary
THOS. J. JONES, Treasurer

GONORRHEA—From P. 323

reveal any significant difference in cure rates resulting from the single injection of penicillin-oil-beeswax, as compared with the two- and three-hour treatment schedules employing aqueous solutions of sodium penicillin. Certain of the participating physicians complained of the technical difficulty of administering penicillin-oil-beeswax suspensions—an objection not raised in connection with the intramuscular administration of sodium penicillin solutions. Recent chemical and/or technical developments may in the future, however, serve to promote the more general use of the oil-beeswax suspension of penicillin.

NINTH DISTRICT MEDICAL SOCIETY

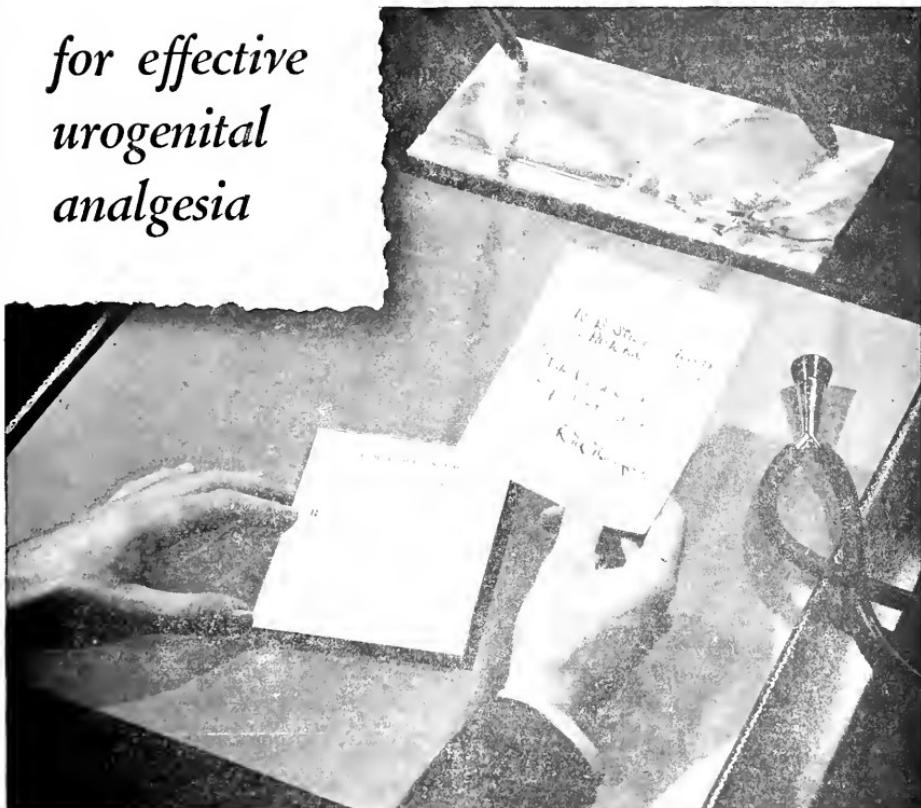
The annual meeting of this Society was held at Lexington, N. C. September 26th.

Dr. I. E. Shafer, of Salisbury, district councillor, called the meeting to order, and Mayor H. C. Philpott welcomed the delegates. Dr. J. S. Holbrook, of Statesville, responded to the mayor's address.

Dr. W. B. Hunt, Lexington, president-elect of the society, becomes president for 1947. Four talks were then made as follows: "Early Diagnosis of Cancer of the Cervix," Dr. T. V. Goode, Statesville; "Treatment of Wounds," with lantern slides, Dr. J. E. Cathell, Lexington; "Urinary-Tract Infections," Dr. John Frazier, Salisbury; and "Rocky Mountain Spotted Fever," Dr. W. M. Kelsey, Winston-Salem.

Dr. W. B. Hunt was toastmaster for the dinner. Short talks were made by Dr. W. M. Copridge, of Durham, president, and Dr. Roscoe D. McMillan, of Red Springs, secretary and treasurer, of the State Society. Guest speaker for the evening was Dr. David Cayer, of Winston-Salem—subject, "Uses and Abuses of Vitamins."

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NEWS

PROGRAM, SOUTHERN PSYCHIATRIC ASSOCIATION ANNUAL MEETING, JEFFERSON HOTEL, RICHMOND

October 7th and 8th

"Psychiatric Sense and Nonsense"—Dr. C. C. Burlingame, Neuropsychiatric Institute, Hartford, Conn.

"Leucotomies, Their Indications and Their Results," Dr. Harry C. Solomon, Medical Director of Boston Psychopathic Institute and Professor of Psychiatry at Harvard Medical School.

"The Psycholeptic Attack"—Dr. R. Burke Suitt, Duke University Medical School, Durham, N. C.

"War Neuroses"—Dr. William K. Keller, University of Louisville School of Medicine, Louisville, Ky.

"Some Suggestive Research Leads in Contemporary Neurochemistry," Dr. Nolan D. C. Lewis, Director of New York Psychiatric Institute and Professor of Psychiatry at Columbia University, New York.

"The Neuropsychiatric Program of the Veterans Administration," Dr. Harold F. Corson, U. S. Veterans Bureau.

"Mental Health—How a Program Can Be Developed in the States," Dr. Robert H. Felix, Medical Director on Mental Hygiene, U. S. Public Health Service.

"A Note on the Sex Disturbance in the Combat Fatigue Syndrome; With Special Reference to Accompanying Abnormal and Forced Emotional Orgasm and Nocturnal Emissions," Dr. Leslie B. Hohman, Visiting Professor of Psychiatry, Duke University Medical School, Durham, N. C.

"Electroencephalographic Research"—Dr. Vladimir Liberson, formerly of the French National Research Council.

"The Use of Magical Thinking and Ritual to Preserve Omnipotence as Demonstrated in Cases of Compulsion Neurosis," Dr. David C. Wilson, Professor of Psychiatry, University of Virginia, Charlottesville.

"The Plan for Resident Training in Neurology and Psychiatry for Veterans at the Medical College of Virginia," Dr. R. Finley Gayle, Jr., Professor of Psychiatry, Medical College of Virginia, Richmond.

"Our Post-Bellum Heritage"—Dr. Walter J. Otis, Psychiatrist-in-Chief, De Paul Sanitarium, New Orleans.

"Private Practicing Psychiatry and Medical Teaching"—Dr. Wendell Muncie, Johns Hopkins Medical School, Baltimore.

"Catatonia in Identical Twins"—Dr. James L. Anderson, Miami.

"The Use of Nitrous Oxide in Narco-Synthesis"—Dr. C. H. Rogerson, Medical Director of the Seton Institute, Baltimore.

Case Report—"Acute Yellow Atrophy of the Liver with Associated Psychosis"—Dr. E. H. Alderman, Westbrook Sanatorium, Richmond.

Officers of the Association: Whitman C. McConnell, M.D., St. Petersburg, President; J. K. Hall, M.D., Richmond, President-Elect; Edmund McC. Connely, M.D., New Orleans, Vice-President; Arthur J. Schwenkenberg, M.D., Dallas, Councillor; John S. Hickman, M.D., Meridian, Councillor; Newdigate M. Owensby, M.D., Atlanta, Secretary-Treasurer.

The American Academy of Allergy will hold its annual convention at Hotel Pennsylvania, New York City, November 25th-27th inclusive. All physicians are cordially invited to attend the sessions as guests of the Academy without payment of registration fee. The program has been arranged to cover a wide variety of conditions in which allergic factors may be important. Papers will be presented dealing with the latest methods of diagnosis and treatment as well as the results of investigation and re-

search. Advance copies of the program may be obtained by writing to the Chairman on Arrangements,

Dr. Horace S. Baldwin, 136 East 64th Street, New York City, prior to November 10th.

The second annual meeting of THE SOUTHEASTERN ALLEGORY ASSOCIATION will be held January 18th and 19th, 1947, at The Atlanta-Biltmore Hotel, Atlanta. Hotel reservations made directly with the hotel. Dr. Hal McCluney Davison, Atlanta, President; Dr. Warrick Thomas, Richmond, Vice-President; Dr. Katharine Bayliss MacInnis, Columbia, S. C., Secretary-Treasurer.

MEDICAL COLLEGE OF VIRGINIA

Dr. Shih-Du Wu, of China, and Dr. Philip F. Sahyoun, of Lebanon, were appointed to the department of pathology at the Medical College of Virginia by the board of visitors, meeting recently.

Dr. Wu, who will hold an associate professorship in pathology, received his medical degree from Union Medical College, Peiping, China, and spent seven years working in pathology at the hospital there. He came to the United States on a Rockefeller Fellowship and has been studying at Harvard, the University of Chicago and Washington University School of Medicine, at St. Louis.

A full professor of pathology at the American University of Beirut, Lebanon, Dr. Sahyoun decided he wished to spend some time in the United States—his first visit in 17 years. He will be assistant professor at M. C. V. Educated at the Beirut University, Dr. Sahyoun has been to this country on several occasions, and also held a Rockefeller Fellowship, which allowed him to do work at Harvard and other leading medical schools.

Dr. Frank L. Apperly, professor of pathology, is a native Australian, and two other members of the department are American men born in Korea.

Also appointed to the M. C. V. faculty were Dr. Gordon L. Townsend, assistant professor in denture prostheses; Dr. William C. French, assistant professor in operative dentistry; Dr. Richard B. Barrick, assistant professor in crown and bridge prosthesis, and Captain Gordon Hall, professor of military science and tactics.

Research grants totaling \$25,075 were approved for work in physical medicine and physiology and virology.

Contributions to the scholarship and loan funds in the School of Pharmacy, totaling \$1,510 received during the past month, were announced.

DR. JOHN A. FERRELL, in accepting the executive secretaryship of the Medical Care Commission of North Carolina, is coming home. For more than a generation he has been with the Rockefeller Commission as Associate Director of the International Division of the Rockefeller Foundation. Dr. Ferrell is a native of Sampson County, a graduate of the University of North Carolina, and one of the most widely known of the alumni of the institution. He will perform the difficult, delicate and important duties of his new function with high intelligence, tactfulness and thoroughness. The Commission and the citizenship are fortunate in being able to command his unusual skill and his international experiences.

DOCTOR BOND APPOINTED MEDICAL COLLEGE OF VIRGINIA LECTURER

Doctor William R. Bond, Yonkers, New York, has been appointed Lecturer in Physiology and Endocrinology at the Medical College of Virginia, Richmond. For the past eight years he has been a member of the Medical Research Division of Schering Corporation, of Bloomfield, New Jersey, manufacturers of endocrine, x-ray diagnostic, chemotherapeutic and pharmaceutical products.

Dr. Bond will also engage in medical consultant practice in Richmond.

A graduate of the Medical College of Virginia, Dr. Bond has completed special studies at William and Mary College and Harvard University. During World War I he served with the American Hospital of Paris and later engaged in industrial pharmaceutical activity and medical education.

DR. GLENN W. PENNINGTON, Diplomate American Board of Otolaryngology, lately Major, Medical Corps, United States Army, announces the opening of offices at 1373 East Morehead Street, Charlotte, N. C., for practice in this specialty.

WALTER REED, the U. S. Army surgeon for whom Walter Reed Hospital, in Washington, was named, was graduated from the Medical School of the University of Virginia, with the degree of Doctor of Medicine, in 1869, at the age of 18 years, following nine months of study, standing third in his class.

DR. JAMES A. CROWELL joined Dr. B. C. Nalle in the Department of Gynecology and Obstetrics of the Nalle Clinic on October 1st. Dr. Crowell obtained the following degrees from the Louisiana State University: B.S., 1935; M.B., 1938; and M.D., 1939. He had a rotating internship at Iowa City Hospital, Iowa, from July, 1938, to July, 1939; obstetrical residency in the Baltimore City Hospital from July, 1939, to July, 1940; and was chief resident at the Philadelphia Lying-In Hospital from September, 1940, to September, 1942. He served in the Army Medical Corps from 1942 to 1946 and was discharged on January 19th with the rank of Lieutenant Colonel. Dr. Crowell had three years' service overseas in North Africa and in Italy with the Fifth Army Headquarters. While he was in the service he was awarded the Bronze Star Medal.

DR. R. FINLEY GAYLE, JR., announces the association with him in the practice of psychiatry and neurology of **DR. CLAUDE L. NEALE**, with offices in the Professional Building and in the Hospital of the Medical College of Virginia in Richmond.

DR. ROSEIER W. MILLER, 76-year-old Richmond physician, was seriously injured September 10th by being struck by an automobile while walking across the street within 50 yards of his home.

DR. D. L. HARRELL, JR., is the new Superintendent of the Virginia (Epileptic) Colony, Lynchburg. Dr. J. B. PETTIS succeeds Dr. Harrell as Superintendent of Western State (Va.) Hospital at Staunton.

MARRIED

Dr. Alexander F. Thompson, of New York City, and Miss Helen Battle, of Rocky Mount, N. C., were married on September 11th.

DIED

Dr. William Forrest Elliott, 60, prominent eye, ear and throat specialist of Lincolnton, N. C., died suddenly of a heart attack, October 4th. Dr. Elliott, a native of the section in which he spent his professional life, was graduated from the Medico-Chirurgical College of Philadelphia in 1916. After an internship and postgraduate work, he joined with Dr. L. A. Crowell and formed the nucleus of

a group which brought the blessings of group practice to Lincoln and adjoining counties.

Dr. Raymond William Paul, of Richmond, died September 22d, after an illness of two weeks. The active pallbearers included Dr. Richard A. Michaux, Dr. J. Philip Jones, Dr. T. B. Washington and Dr. Marshall P. Gordon, Jr.

Dr. Paul was born in Richmond and educated at the old Richmond Academy, the Virginia Polytechnic Institute and the Medical College of Virginia.

Dr. William Chapman Chilton, Jr., 33, died September 20th at the Medical College Hospital, Richmond. He was born in Appomattox County, served as a captain in the Medical Corps of the Army during World War II, and only recently returned from Europe.

Dr. H. F. Kinsman, 74, of Hamlet, N. C., died in Memorial Hospital, Charlotte, August 24th. He was a graduate of the class of 1897 of the University of Vermont Medical College, and came to North Carolina as a young doctor.

Dr. Nathan Poliakoff, 51, physician for the Pond Creek colliery of the Norfolk and Western Railway's fuel department for 11 years, died of a heart attack at his home at Williamson, W. Va., August 31st.

Previous to his employment here, Dr. Poliakoff practiced in Charleston. During World War I he served in the Army Medical Corps as a lieutenant, and was officer in charge of a hospital at Nitro.

He was born at Augusta, Ga., and received his doctor's degree at the University of Georgia's School of Medicine.



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BOOKS

X-RAYS AND RADIUM IN THE TREATMENT OF DISEASES OF THE SKIN, by GEORGE M. MACKEE, M.D., Professor of Clinical Dermatology and Director of Department of Dermatology (Skin and Cancer Unit), New York Post-Graduate Medical School and Hospital, Columbia University; and ANTHONY C. CIOPPOLLA, M.D., Assistant Professor of Dermatology and Assistant Director of Department of Dermatology (Skin and Cancer Unit), New York Post-Graduate Medical School and Hospital, Columbia University. Contributor HAMILTON MONTGOMERY, M.D., Associate Professor of Dermatology, Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, Rochester. Fourth edition, thoroughly revised; illustrated with 321 engravings and four colored plates. *Lea & Febiger*, 600 Washington Square, Philadelphia 6. \$10.00.

The authors tell us that the x-rays constitute the most important single therapeutic agent in the treatment of diseases of the skin, but they emphasize that x-rays and radium are dangerous agents in unskilled hands. They undertake to correlate the specialized knowledge of dermatology and radiology, and they include in this volume the elements of biology and physics essential to this particular subject. They tell us that this text restricts itself to the uses of these agents in which the results are sure, that it points out various pitfalls and contraindications, and that while obsolete material has been discarded everything which experience has proved to be of value has been included.

MONGOLISM AND RETINISM: A Study of the Clinical Manifestations and the General Pathology of the Pituitary and Thyroid Deficiency, by CLEMENS E. BENDA, M.D., Director, Wallace Research Laboratory for the Study of Mental Deficiency, Wrentham, Mass.; Instructor in Neuropathology, Harvard Medical School; Assistant in Psychiatry, Massachusetts General Hospital; Lecturer, Postgraduate Seminar, Massachusetts Department of Mental Health. *Grune & Stratton, Inc.*, 443 Fourth Avenue, New York 16. \$6.50.

Attention is called to the prevalence of the condition known as mongolism, which is said to be the most common growth disorder of infancy. We are told that mongolism is at least ten times as prevalent as cretinism in this country. The collected facts are published for the guidance of the physician in best management of the situation which is created by the occurrence of mongolism in a family. Hopes are held out of prevention of mongolism and the therapy of choice in curative treatment is said to be the efficient use of pituitary extracts.

THE NORMAL ENCEPHALOGRAM, by LEO M. DAVIDOFF, M.D., Professor of Clinical Neurological Surgery in the College of Physicians and Surgeons, Columbia Uni-

versity, and CORNELIUS G. DYKE, M.D., Late Associate Professor of Radiology in the College of Physicians and Surgeons, Columbia University. Second edition, thoroughly revised, illustrated with 155 engravings. *Lea & Febiger*, Washington Square, Philadelphia 6. 1946. \$5.50.

Since the appearance of the first edition much evidence has accumulated necessitating revision. The present work is based on more than 8,000 encephalograms. It is claimed that encephalography, first introduced for aid in diagnosis of hydrocephalus and brain tumour, is now employed as a means of diagnosis in practically every intracranial disease. The reader may find here the technic, indications and contraindications for the performance of the test and the reaction during and after the procedure.

MOTHER AND BABY CARE IN PICTURES, by LOUISE ZABRISKIE, R.N., Director, Maternity Consultant Service, New York City; Lecturer, New York University. Third edition; modernized; 229 illustrations and seven tables. *J. B. Lippincott Company*, E. Washington Square, Philadelphia 5. London. Montreal. 1946. \$2.00.

The author wrote this book for expectant mothers and fathers. It has served an excellent purpose in their hands and has had a wide use as a guide for practical nurses and for nurses in teaching classes for mothers. The present revision includes many additions and changes, as made necessary by developments in this field and suggestions by users of previous editions. Emphasis is placed throughout on coöperation with the doctor in charge.

A PRIMER FOR DIABETIC PATIENTS: An Outline of Treatment for Diabetes with Diet, Insulin and Protamine-Zinc Insulin. Including Directions and Charts for the use of Physicians in Planning Diet Prescriptions; by RUSSELL M. WILDER, M.D., Ph.D., F.A.C.P., Professor and Chief of the Department of Medicine of the Mayo Foundation, University of Minnesota; Senior Consultant in Division of Medicine, Mayo Clinic. Eighth Edition, Reset, 192 pages, with 8 illustrations. *W. B. Saunders Company*, Philadelphia and London. 1946. \$1.75.

Wilder's Diabetic Primer continues to be a plain and reliable guide for the patient who is afflicted with diabetes and for such a patient's nurse or parent. Distinguishing characteristics are plainness of statement and hopefulness of outlook.

PRACTICAL MALARIOLOGY: Prepared under the Auspices of the Divn. of Medical Sciences of the National Research Council. PAUL F. RUSSELL, M.D., M.P.H., M.C., A.U.S., Parasitology Divn., Army Med Sch. Field Staff, Internl. Health Divn., Rockefeller Foundation (on leave); LUTHER S. WEST, Ph.D., Head of Biology Dept., Northern Michigan College of Education, Major, Sn.C., A.U.S. (Re-



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serve); Formerly Entomologist, Parasitology Division, Army Medical School; REGINALD D. MANWELL, Sc.D., Professor of Zoology, Syracuse University, New York. Formerly Captain, S.A.C., A.U.S., Protozoology Section, Parasitology Division, Army Medical School. 684 pages, 238 illustrations, 8 in color. H. B. Saunders Company, Philadelphia and London. 1946. \$8.00.

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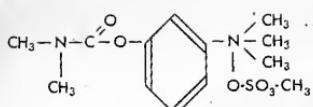
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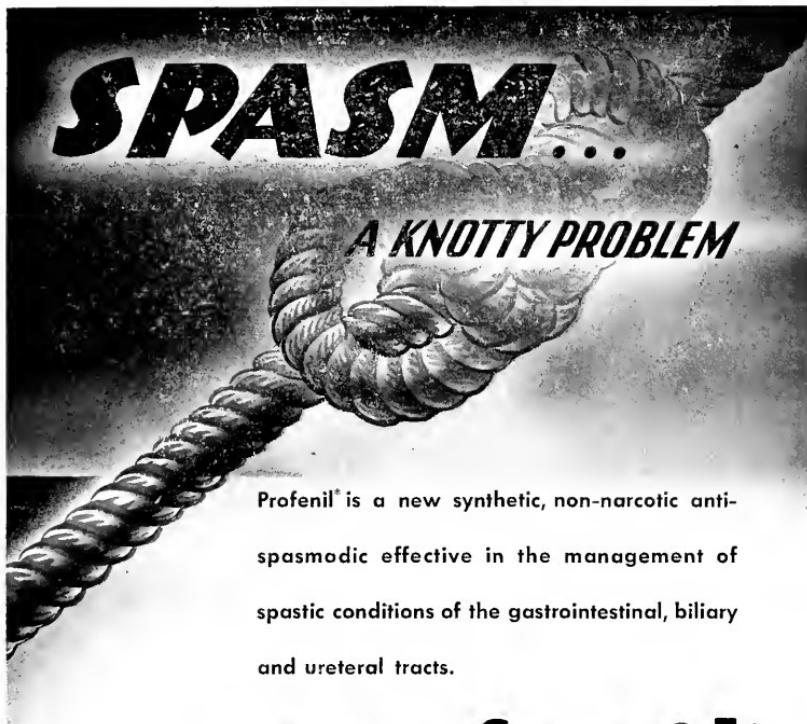
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A Renaissance Now

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Nothing has such power to broaden the mind as the ability to investigate systematically and truly all that comes under the observation in life.—*Marcus Aurelius*.

I HAVE BEEN a lifelong student of the Renaissance, that social and intellectual rebirth of western Europe in the fifteenth and sixteenth centuries. Italy led off in the fourteenth century, and in Italy the Renaissance assumed its typical form and lasted longest. Italy led the world in literature, art, science, and social science. France followed Italy by about a century, and there, too, the Renaissance ran a typical course. In Spain, where the movement began early, the Renaissance ran into conflict with the Church and by and by petered out. The next region to be affected was the Rhine valley—Holland, Flanders, and western Germany. There was even a stir as far east as Crakow, which produced the famous Simon Simoniades. England was the last major country to be affected, and the English Renaissance, so far as it was greatly productive, was confined to the forty years from 1580 to 1620. There were of course various overlappings and early or late manifestations. The Renaissance begot the Reformation, and the Reformation, since it involved Europe in religious wars, operated as an enemy to its creator. Religious discord destroyed the German Renaissance, injured the French, and held back and hindered the English Renaissance.

I have been a student of this remarkable efflorescence of the human mind as it appeared in all countries, but I may fairly say of myself that I have not been buried in my Renaissance studies. I was carefully trained in Greek and Latin liter-

ature; in philosophy and philology; and in the literature, language and history of the Middle Ages. I have also taught and written in more modern fields, including the literature of America. I have always managed somehow or other to keep up fairly well with current literature in English and to some extent in modern foreign languages. I say this that you may know that I am not merely a specialist who has seized upon some truth or other in his own area and mistaken it for something universal. My psychology, I think, has been fairly sound. I have known that learning does not live in books, which are only symbolic repositories, but lives only as it enters human minds and thus becomes a part of an actual present. Our minds are divided between a rather importunate present and a more or less fragmentary past. I have not lived in the past—no man can—and I do not believe that it is worth while trying to do so. I believe that the past can be brought to life as a part of the present and that in the past are to be found answers to many of our most persistent and difficult problems in the present. In order to complete this introduction, let me say of the future that no man knows it or can know it, but that the best guesses as to what the future will hold or reveal come from those who know most thoroughly and thoughtfully the present and the past.

It remains only to say that last April I made a public attempt to apply the principles which underlay the Renaissance to the current situation

in the university world. I am now pushing the issue one step forward.

The Renaissance was wide in scope. It moved like a Nile flood over the face of western Europe. The flowers and fruits of the human mind sprang up as out of fertile and well-watered soil under the sun of spring and summer. The Renaissance lasted a long time; it still now and then lives again. It created our modern culture. It produced navigators, soldiers, statesmen, courtiers, scientists, philosophers, artists and poets. It did this on a basis so poverty-stricken, so ignorant, so superstitious, so hag-ridden by disease and plague, so smitten by tyranny and social injustice, so poorly housed and warmed and fed that it has taken a great war of explosives to reproduce conditions so unlikely to support a rebirth of the spirit.

The origin and propelling forces of the Renaissance have never been satisfactorily identified. There are still various theories put forward to account for it. With these, however, I shall not trouble you at this time. It happens that I have some ideas of my own on the subject, and these are the ideas that I applied quite simply to our current learned world. I am very happy to be able to put them before you, who are among the learned and observant men of the modern world. I asked last spring why we might not have a renaissance in North Carolina. I might have said Virginia, Kentucky, or California, for I had our whole country in mind. I said that our advantages over the intellectual workers of the Renaissance were overwhelming, that we had every tangible advantage, both material and immaterial. Think, for example, of the sheer ignorance, the intolerance, the superstition, and the poverty of the men of the Renaissance. In spite of these things it may fairly be said that, by and large, they were great and we are commonplace.

Having made clear this situation, I stated my own hypotheses, which are merely supplementary to current history and have only the advantage of somewhat deeper foundations in human nature. The men of the Renaissance, who were prevailingly Aristotelian in their philosophy, never doubted that this is a world in which something can be done. This contrasts with a nerve-slackening skepticism in the modern world and to an unrecognized hedonism which says: not "Let us eat, drink and be merry for tomorrow we die," but "Let us get rich quick," "Let us get something for nothing," "Let us get ours while the getting is good." It also says, "The Kingdom of God is not for me; it is for the high-brows and the saints; let 'em have it." It thus shows that it believes that material advantages are the only certain advantages, and that great states and great educa-

tional systems can be built on a strictly utilitarian philosophy.

The men of the Renaissance did not believe these things. They believed that men are the children of God, and that they may achieve sainthood on this earth and the joys of heaven after death. They believed that men can grow in grace as they live their earthly lives and rise step-by-step until they become like the angels and participate in the nature of God. Moreover, they thought this would be a very happy and interesting thing to do. Modern men need some such beliefs as these. They have not revised the ancient, rather childish conceptions of heavenly bliss, and they quite frequently prefer the tangible joys of night clubs and divorce courts to golden streets, pearly gates, and choirs of angels seated on fleecy clouds. Modern men have not learned to talk their own language or often have not thought enough to have anything to say. The world is thus badly in need of a new Aristotle, who will set up and explain the frame of things and give to modern men as individuals a basis for faith and action.

The men of the Renaissance had something besides faith. They had curiosity and energy in abundant measure, in much greater measure than we have them. There must be something in the modern world which narrows and stifles curiosity and directs energy into restricted and often selfish, unproductive channels. It is hard to get modern men, or their children, to pay attention to anything but themselves and their limited interests as individuals.

The stream of ideas—call it interior monologue or what you will—that passes through the average human mind is concerned with *me*: my health, my state of mind, what people think about me and what I think about them, my problems, my children, my job, what I said to Joe and what he said to me, mostly what I said to him. Even the most public-minded citizen, I suspect, devotes only a fraction of his attention to the affairs of city, state and nation, and any conception of democracy that postulates the constant and alert interest of the citizenry is purely romantic.—*Granville Hicks*.

Calvinism or Augustinianism was the prevailing creed of the Renaissance, and that great system places incisively on every man the responsibility for his own salvation, and to this day that manly doctrine says, "You are the architect of your own fate: don't whine, don't lean on others, but straighten your shoulders and pick up your burdens."

The men of the Renaissance had faith, energy, and inquiring minds. They were determined to master themselves and the world. They, in the

words of Bacon, took all knowledge as their province and thought it possible for a man to be, not a mere specialist knowing one thing and despising everything else, but a man of many sides—like Leonardo, Michael Angelo, Sir Philip Sidney, and Sir Walter Raleigh. One is almost obliged to admit, in the light of their achievements, that excellence in one line insures excellence in many lines. The ideal of the all-round man still works, but I do not know anything more repugnant to the modern man than the ideal of breadth. You who are students of the mind will see the fallacy of the restricted modern pattern. You will know that the mind is not like a bank of pigeonholes, but is an organism, like a muscle, which grows and is perfected by use and experience.

Seeing these things, I said last spring, almost jocularly, "Why not have a renaissance in North Carolina?" And I added, "To do this you must have faith that this is a world in which something can be done; you must have the will to work, and you must learn how to work intelligently." It would obviously be a very fine thing if we could now begin a revival of the spirit in America. I am not on this occasion going to talk to you about these advantages, although, frankly, it would be a possible and a very noble achievement if the South, instead of following along in the materialism of the North, would devote a generation or two to the task of saving the nation. We need only faith and a superior determination, as also a more generous and more persistent energy. My purpose on this occasion is to ask you as practical men if you think we have at this time any chance to succeed if we should undertake the great, noble, unselfish enterprise which I have suggested and described.

Nothing in society or civilization seems to develop at an even pace. Forces, we believe, accumulate, often beneath the surface, for a long time, but changes are always sudden. Great things are done quickly, and progress is not a slow but a rapid affair. More progress will be made in five or ten years than has been made in fifty or a hundred or five hundred years before. Rebellion against the tyrannies of Charles I set men's minds free, and there was more vital political thinking between 1642 and 1652 than there had been since the days of the Gracchi. Witchcraft was a felony in both England and America until the third decade of the eighteenth century, when suddenly the climate of opinion changed, and the falsity of the whole wretched system became immediately obvious. Chemistry and physics proceeded slowly and tentatively until the beginning of the present century, when a great spurt came with Rutherford and his contemporaries. Chemistry and physics have developed more during your lives and mine

than they did in thousands of years before. The same thing is largely true of biology and medicine.

Now, with this doctrine of the jump in mind and with a recognition also of the social backwardness of the rank and file of American people at this time, let me ask my question: Is there any chance for us at this time to open a new field of progress? To adopt new and better methods, to awaken a greater moral earnestness, to institute a better and more vital spirit in the lives we live and the businesses we do—these things would be the features of the renaissance which is now needed in our country. Since it is an individual as well as a national matter, no great numbers are needed to start this thing. As a people, we are lagging behind our science; we do not understand it, nor know how to interpret it, nor make use of its findings. We do not know how it affects us and what it signifies. I might ask you if there is any promise in the air. Do our faltering efforts to create a new international order and our unsatisfactory strivings to restore our internal economy indicate that we are blindly drifting in our national life, and will soon find ourselves in the old situation and find it a much worse situation? I ask you to give this question of immediacy your serious consideration and in so doing to make use of your observation and training. This is a very serious matter, one of great importance. If we lose out now, there is no telling when another opportunity will be given.

If I should say that we have been as individuals in society idle, ineffective, thoughtless, greedy, indifferent, and uninteresting; neglectful of duty, both to ourselves and our neighbors, conventional, if not commonplace, in our opinion and our thoughts—if I should say these things, I should be antagonistic, if not rude, even if I clearly included myself in the group. You, as professional men, might take offence. If, however, I put the need of a revival on a different ground, I think we might come to an agreement. If I say that we as a people and as individuals do not live up to our opportunities, that we are inferior to what we might be in our several lives and occupations; if I make haste to say that we are not relatively but absolutely smaller men than we ought to be and could be; if I say loudly that we are as good as our neighbors and a lot better than most of them, you would not think me hypercritical and would not take offense. You would probably agree that we and our performances are inferior to what we and they might be if only we had more vision, more industry, more intelligence, and more faith in ourselves and our possibilities than we now have. or if we merely worked harder and more intelligently. You would then be willing to con-

sider dispassionately with me how we might have better men and women in our society, or rather greater numbers of our best in proportion to our worst. Might we not have better schools and better students, better homes, better children and neighbors; less idleness and drunkenness, less gambling and dishonesty, less stupidity; and more fruitful, generous and independent thought?—in a word greater happiness in our lives than we now have? If you thought these things were achievable, if you agreed with me that we may now be at a crisis fraught with opportunity as well as danger, you would be willing to consider seriously my simple question: Are there now any visible signs that, if we tried to start something much better socially and individually than we now have, we might succeed.

The defeated promise of the first World War, the downfall of Woodrow Wilson's plans for a universal peace, the greedy and piratical business activities of the Nineteen-twenties, the decay of honest American culture in many people during the Prohibition Era make me hesitant to say that you and I at this moment stand on the threshold of a new life for ourselves and our posterity; and yet there are certain things that offer a basis for hope. I shall mention some of them; you will no doubt add to the list, or you will brush it aside. In the light of the excellent progress of our returned veterans as they appear in schools and colleges; in the light of the behavior of our fellow citizens during the recent war, and in the light of the intelligent aspirations of ordinary people toward a peace of universal justice, I am disposed to believe that there is even now the promise of a better world. You are no doubt more competent than I to judge this matter; but, on the whole, I admired the behavior of our people at home during the war. I think food and gas rationing was fairly successful. I think our people are extremely intelligent. They are, I think, the only people in the world who have the intelligence to form lines without police supervision in front of ticket windows and food counters. I think our people know a lot about politics and that they want good things. They want justice, salvation and prosperity for their own country and for other countries. We must not judge them by the badness of our Congress or the narrowness of partisan newspapers. Beside and beyond these things, I, as an experienced university teacher, seem to sense something deep and true at work in the heart of our universities.

I think it is justifiable for me to ask you in a meeting like this, not only if you see the shadow of a hope for success, but whether you would be willing to try to achieve a renaissance in your own private and professional lives and in the circles in

which you are influential figures. This may seem impertinent to those of you who are quite contented to go along pretty much as you have in the past. You will, in any case, no doubt be useful citizens, but without some vision of still better things, some hope for a discovery, some betterment of a technique, some divine discontent, some courage to try for better and better things, you are in danger of merely marking time. You will not be apt to gain distinction, because you will try for none. The result of an indolent, repetitive policy is usually that one falls further and further behind. It is so in scholarship, and I am sure it must be in other professions.

Some of you may feel that you are just about all right now and that you know a great deal more about the subject of human behavior and human progress than I do. You may be right, but I cannot help distrusting a self-satisfied attitude wherever it appears. The really great men I have known have been modest. I take it for granted that you can and will do, in any case, a fairly good job. But that is not what I am looking for, nor what I am asking you about. I am asking you if you think this is a time when something really great might be begun and carried forward. Positive excellence is a big order in my business, and I am sure it is in yours.

Suppose then that you are willing to grant that we might do a good deal better than we do, how should we go about any such enterprise? Preaching and propaganda have no doubt a function, but a renaissance is a matter of many excellent individuals, and mass persuasion fails to the ground. I make these individual recommendations:

In this *annus novus mirabilis* you would have to think things through with all the intelligence and perspicacity of which you are capable—very fully and very imaginatively.

You would have to study or restudy your profession, its corpus and its principles, and become and induce others to become much better professional thinkers and operators than they are now.

You would have to gather ideas from one another and from many men in many places in the world, some of them very remote.

With such knowledge of the growth of the human mind as I possess, I am prepared to say that you would need to read widely and think frankly, clearly and originally. There is almost nothing pertaining to human life that may not concern you. I cannot imagine an unintelligent body of men leading any revival or any great movement. I doubt also if the greatest advances are ever made by men in complete isolation. On the other hand, I cannot imagine any truly intelligent, diligent, unselfish and judicious body of men placed in positions of leadership, as you are, who could fail,

if they tried, to produce really great results. The thing is contagious, and any small body of men who have a purpose, who take themselves seriously, who work, and who show courage and persistence can in five-years' time stand out as exemplary in the whole United States and possibly in the whole world. Such things have been done again and again. That is the way great things are started. Honest, intelligent work is so rare, so much needed, so much prized, that it cannot escape renown. Look anywhere you like in the modern world, and what you see everywhere is a lot of men working with their left hands, doing just enough to get by, perfectly contented to turn the wheels in a patterned, conventional way, and much more anxious about their reputations than about their characters. I am sure you would like to do something great, something finely conceived, something truly distinguished.

I believe we need a revival of the finer things in our age and our country (I do not mean art, music and belles-lettres), and I believe that you and men like you are competent to lead such a revival. I should like to see a revival of excellence in every line, a revival of character and conduct. The responsibility on men who try this is heavy. They will have to work, and most of you, I am sure, are willing to work. It will be necessary for you to read and study and observe and think. These are difficult things to do. It is hard to think straight and well and originally. Thinking is the process of finding out the truth, the whole truth, and nothing but the truth. I shall even be bold enough now to say that I wish you would try now to improve yourselves and, as far as possible, to set up a new standard of excellence in your communities and your profession. I am under no delusions about you or about any class of educated American men. I know you can reach far greater heights than you now occupy, exalted though they may be. If you do try, I predict success—far-reaching, gratifying success. Why not give my nostrum a trial? You may return the goods at any time if you are not satisfied, and I will cheerfully refund the money.

But you might say: "I cannot read a lot of books and articles, I cannot make and record a lot of observations, I cannot spend a lot of time trying to improve my community; I'm too old; I'm forty, and Dr. Osler told the world years ago that men of forty might as well be chloroformed." Dr. Osler was a very eminent physician, but Dr. Osler was wrong about that; and I suspect that he knew he was wrong. The cerebral cortex was the last organ in the vertebrate animal to be evolved, and biologists tell us that it is one of the organs in man which is still undergoing evolutionary development. Biologists have also concluded

that the brain lasts longer, retains its function in vigor longer, than any other organ of the body. The heyday of the intellect seems to be between forty and seventy. As I look about at you, I see that many of you are just about to become reasonable creatures, just ready to begin your educations, ready to read books, participate in discussions, and learn to think; or, as I put it just now, ready to learn to seek and discover truth.

Of course if you eat too much and gorge yourselves with animal proteins, needed in childhood but not in later life, you will ruin your livers and get hardening of the arteries, or, if you injure your kidneys with excessive alcohol and alkaloids, so that they cannot carry off waste matter, your brains will in either case be clogged and will not develop. If you will eat and drink moderately of the right things, take some exercise, and give your brains a chance, you may yet reach intellectual maturity.

Now, after this somewhat pertinacious paragraph, let me return to my subject in order to express one more pertinent thought. The chief need of a renaissance in our country is that it might bring us to a better understanding of ourselves and of the world in which we live. As Dr. Raymond Fosdick put it, "The curse of man has been his aimlessness, his paucity of ideas in regard to his own career, his disbelief in his own powers to shape his future." Modern man needs a plan and an objective. No one can assess the power of an idea, the effectiveness of organized thinking, and the influence of a group of profound thinkers, even a small group like this. Man's intelligence is capable of conceiving of a rational order. It has done it before, and can do it again. We need the wide application of intelligence on the highest levels by technicians of world order. I believe that we shall some day have that and that it may be the great achievement of the next one hundred years. I think it is not so likely to come from specialists as from men well grounded in man and his habits who at the same time will be broad enough to comprehend all that science has to offer. What we have now are mainly groups of individuals—cartels—ignorant of each other, and sometimes contemptuous of those philosophies which concern themselves with the human spirit. Scientists operate often in the remote circle of objectivity. We humanists, on the other hand, dwell along with the scientists in their private lives in the subjective center, and we do not know the language of the scientists. They themselves cannot tell us what they mean, for as human beings their left hands do not know what their right hands are doing. The result is that our recent discoveries on the utmost fringe of impersonal science are unknown and indifferent to man in the

center; he is ignorant, materialistic, and often apathetic. He cannot relate these things to his personal life, his conscience, and his understanding. My point is that he must learn to do so, that we know enough of philosophy and ethics, religion and destiny, to serve as a working basis.

The man of the Renaissance had a scheme of things—primitive, erroneous in part, and certainly inadequate—but it was his. It was related to his life as an individual, a member of a family, and a citizen of a state. In that respect he was more fortunate than we are; and his ethics, his religion, and his rationale of intelligence worked better than ours—because they were his and were based upon what he had seen in practice and what he knew. Our conquest of the earth is well-nigh complete. We have surveyed the whole universe, and by our system of communication we have brought it to our very doorstep; but it is not ours. We do not possess it as the man of the Renaissance possessed his world. We have entered into the structure of matter and have found the mainsprings of human habit and human nature. "There is a cohesiveness in the world today, a solidarity of interest unique in history," says Dr. Fosdick; but, even so, we do not recognize the picture which has been drawn of us, and the mass of modern men sit in darkness or play the games of children.

What this new world order will be I do not pretend to say. No one can get enthusiastic about neutrons and electrons; but we may, and perhaps must, as sane men, believe in a power back of atoms and their fragments and grow enthusiastic about that power, especially if we believe that that power is somehow good and that we ourselves are parts and products of the world regimen, that we have functions to discharge, and that in this world we are organic and at home, and that, as we operate in that function which is man's activity, we align ourselves with this great force, participate in its nature and share its power. We may fairly regard ourselves as the farthest product of biological evolution. We may believe that in us has developed, through infinite trial and error, the farthest reaches of superhuman power—such concepts as those of justice, mercy, truth, courage, altruism, pity, service, wisdom and temperance—and we may regard them, as indeed they are, as revelation. We may believe in creation, and, if we do, we must believe in redemption. In any new world order the fundamental concepts of ethics will probably remain unchanged, or else suffer only minor modifications; and, when we are through with modernizations and modifications of religion, we shall probably come out at last with something not inharmonious with true Christianity. These things are not for me to say, for, given effort and enlightenment, the human mind will set things to rights.

The man of the Renaissance was not a spectator in his world order; he was part and parcel of it, and we common men of the present need not be spectators in our world. We must somehow arrive at an all-embracing concept of human destiny, so that men may have the heart and purpose to live fully and do the world's work for a larger purpose than material gain, social prominence, or political power. Until this is done for the race as a whole, the necessity continues to impinge upon the individual. We must each of us create for himself the best available scheme or system. Because what I have said is not simple, let me put it briefly in these terms: We do not know our world, we do not belong to it; the mass of men are mere spectators. There is an unfilled gap between the findings of science and the pressures of human life. I have argued that the best hope for filling this gap is to cultivate the breadth of interest, the active curiosity, the pursuit of perfection, and the vigorous energy of the Renaissance. I hope that you have understood me and that you agree with me.

PHYSICAL THERAPY

(G. M. Taylor *et al.*, in *Arch. Phys. Med.*, 27, 1946)

Systemic use of simple bed exercises may prevent medical and surgical complications in any bed patient.

Exercises may be started 24 to 48 hours after operation and are usually done before each meal. Amount of exercise each day depends on the patient's strength.

For each exercise the patient lies in a comfortable supine position without a pillow, hands near the head, elbows flexed and resting on the bed, feet a foot apart, with toes pointing straight up, covers loose.

Recommended exercises include toe and foot extension and flexion, toeing in and out, circling with toes in each direction, pelvic rotation and back flattening, flexion and extension of both legs and both thighs alternately; pushing, pulling, shoulder and breathing exercises. All these are begun a few in succession and gradually increased in number as the patient becomes less fatigued.

THE CROWN'S OFFICER

(T. R. Taylor, Denver, in *Rocky Mount. Med. Jt.*, Oct.)

The office of coroner [*corona=crown*] was originally established in England to protect and collect Crown revenues. The inquests on the dead, a medical-legal problem, was an incidental and secondary function. The Crown revenues depended to a large degree upon the diligence of the coroner in seeking the forfeited property of murders, suicides and felons; and what could be realized from wrecks, royal fish and treasure trove. Nowadays, the property of murders, suicides and felons is not forfeited. If any person were implicated in the death, the coroner would commit him to prison to await trial, and would search for his goods and personal property as forfeits to the Crown.

A PATIENT WITH MASSIVE EDEMA due to cardiac failure was given '80 c.c. of salyrgan-theophylline and mercuriprin over 10 months without toxic effects. If other measures have failed to improve the status of an edematous cardiac patient, the mercurial diuretics should be used. Ambulatory patients can often be kept comfortable by periodic use of these drugs. Toxic effects from the use of mercurial diuretics are extremely rare.—J. L. Horner, St. Louis, in *Jl. Mo. Med. Assn.*, Nov.

Some Features of Medicine and Surgery In The Elderly

JOHN WYATT DAVIS, JR., M.D., Lynchburg, Virginia

ALTHOUGH all of us see many of the aged survive the gravest illnesses and major accidents and surgical procedures, most of us are too disposed to despair when confronted by the responsibility of caring for such situations. It is a matter for gratulation that so much is being written now in encouragement of doctor and nurse to hope and work until the last breath for the recovery of every patient past seventy, or eighty or even ninety.

Several articles, recently published in this spirit, which deal with different aspects of practice among the aged constitute the basis of this article.

Elderly patients should not be condemned to a life of invalidism because they are judged too old for surgical treatment.¹ The determining factor is physical condition rather than age. Careful pre-operative preparation is demanded, also and timely, cautious, minimal surgery under suitable anesthesia, and postoperative care.

Special attention should be directed to cardiac output and renal function, and since many elderly patients have a low-grade prostatic obstruction with secondary renal damage, blood-urea estimations should be included. Before operation, opiates should be used only sparingly, massive doses of vitamin C should be given, and the patient should be encouraged to be up every day and take fluids to the limit of comfort.

The operation should not be unduly long and whenever possible a minor degree of surgery should be done. Despite a tendency to delay healing, local anesthesia is preferable. Good relaxation is obtained with regional block, either alone or with gas and oxygen, or cyclopropane.

After operation carbon dioxide with oxygen is administered by mask for 10 minutes; the procedure is repeated every hour for 24 hours. In absence of complications, the patient should be allowed out of bed as early as possible. Systemic sulfonamide therapy is well tolerated if accompanied by plenty of fluids, but lung complications may arise if the circulation is overloaded. Vitamin C administration should be continued. Nicotinic acid, 100 mg. daily, should be given to a patient who is likely to be subject to postoperative excitement or disorientation. Improvement during convalescence may be enhanced by an alcoholic beverage at lunch time.

Kosmak² writes instructively on certain gyn-

cologic pathological conditions of the old.

Breasts growths may be epithelial proliferation, nodular connective tissue, fibroma, adenoma, cysts, or cancer. Retrogressive changes of the vulva predispose to irritation and infection. Lack of cleanliness and concentrated or highly acid urine are contributing factors. Dermatitis, leukoplakia, and kraurosis may result. Atrophic skin conditions are benefited by oily lotions, lanolin cream, and 0.05 mg. of stilbestrol at bedtime for 10 to 15 days.

Puritus may be caused by lice, infected hair follicles, or intestinal parasites. Lice are removed by repeated shaving and 30% blue mercurial ointment; irritating lesions require cleanliness and dusting powders. For stubborn painful conditions, three or four drops of 95% ethyl alcohol is injected directly under the skin of the vulva at points 10 mm. apart in straight lines. The macerated skin of metabolic disorders such as diabetes mellitus should be kept covered with zinc oxide or other bland ointments.

Leukoplakia begins as hypertrophy followed by atrophy with a glistening white appearance of the skin. Progressive kraurosis with leukoplakia indicates vulvectomy. Leukoplakia, tertiary syphilitic lesions, and warts are forerunners of cancer, and all vulvar lesions should be thoroughly examined. Cysts, lipomatous tumors, fibromas, and fibromyomas are excised. Malignant growths are mainly carcinomatous, although sarcoma and melanoma may occur. Cancers of the clitoris or urethral mucosa are highly malignant.

Atrophy of the vagina causes chronic inflammation and glairy discharge with bleeding and desquamation. If infection is present, a gauze tampon inserted over a silver picrate suppository is left for 12 to 24 hours. After removal the patient takes a douche lying down, using two quarts of warm, not hot, water containing a heaping tablespoonful of borax.

Primary carcinoma of the vagina is less likely than secondary involvement.

Cervical erosion is merely loss of squamous epithelium without important symptoms; inflammation of the cervical canal, caused by improperly fitted pessaries, and indiscriminate douching, usually results in discharge and bleeding. Cervical laceration or atresia noted after the menopause should always be corrected. Nearly 30% of all cervical cancers arise after the age of 50. Epithelioma and adenocarcinoma may be proliferating,

1. Maurice Lee, in *The Practitioner*, 156:130-132, 1946.
2. G. W. Kosmak, in *Clinics*, 4:1240-1249, 1946.

indurating, or ulcerative. Although no definite symptoms are noted, postmenopausal bleeding may be a clue.

Cancer of the uterine body is first shown by a leukorrheal discharge and vaginal spotting; current age with histologic study of the scrapings establishes the diagnosis. Without periodic examination, malignant ovarian neoplasm is likely to remain unnoticed until too far advanced for operation.

The cervix may be hypertrophied and ulcerated. Operation is less successful than at younger ages; a properly adjusted pessary often relieves symptoms.

In the elderly patient shock is likely to follow trauma and hemorrhage, and hypotension is not well endured. Lost fluids must be promptly restored, but the cardiac reserve is limited in the aged and blood volume must not be increased rapidly or beyond the usual amount. During hypotension, decreased tissue oxygenation may cause cerebral, cardiac, renal or hepatic damage, and thrombosis is likely with or without atheromatous vascular lesions. To avoid circulatory embarrassment colloidal solutions are discontinued at the earliest adequate response. Whenever possible, nutrients and corrective substances should be given by mouth.³

Gastric or duodenal ulcer may first appear in the seventh or eighth decade of life, largely unrecognized in patients over 60, even after perforation and hemorrhage. Every effort should be made to lessen mental and physical discomfort. Chronic diseases of old age may demand first consideration. Radical change of habits or diet should be avoided.

In 4,000 consecutive autopsies performed during two years,⁴ 97 instances of peptic ulcer in later life were noted: 80 occurred between the ages of 60 and 79, 17 between 80 and 95. Among 70 men ulcers were gastric in 40, duodenal in only 29, multiple in one. Of 27 women 14 had gastric, 12 duodenal and one multiple ulcers.

Only 10 of the 97 patients had been given correct diagnosis: 9 men and 1 woman, all with hemorrhage or perforation. Gastro-intestinal manifestations had been recorded in 19; in 70 no clear-cut symptoms had been observed.

Old age involves many emotional problems not generally suspected and neurogenic factors of ulcer development are prevalent in the increased aged population of today. Acute ulcers may follow major operations or acute febrile conditions, or accompany congestive heart disease. Some patients describe typical symptoms of ulcer; others withhold such information because of impaired memory or fear that their habitual way of living will be altered.

Hypertension, coronary artery disease, myocarditis, cerebral sclerosis, prostatic hypertrophy or diabetes mellitus may complicate treatment. Patients are happier if occupied; bed rest is indicated only for compelling reasons.

Six small feedings of milk, cereals, egg, diluted fruit juices, pureed stewed fruits and vegetables, and plain desserts are preferable to an hourly milk and cream schedule. Later, broths and lean meats are allowed and, within a few weeks, a normal diet prescribed. Moderate indulgence in tea, coffee, alcohol and tobacco is relatively harmless.

Barbiturates and bromides are limited to a fraction of the usual dose. Antacids, if indicated at all, are prescribed in small amounts and palatable form.

Operation is necessary for intractable pain, obstruction, suspected carcinoma, hemorrhage, or perforation. Surgery for benign nonperforated ulcer is reasonably safe; gastrojejunostomy is the best procedure for the feeble patient. Success in simple closure of a perforation depends upon prompt surgery rather than upon the patient's age.

ACCIDENTS—CHIEF KILLER OF SCHOOL CHILDREN (Statistical Bulletin, Met. Life Ins. Co., September)

Accidents take the lives of 6,500 school children a year in the United States. Accidents are now the leading cause of death among school children. Motor vehicle accidents cause a third of the total. The great majority of these motor vehicle accidents occurred while the children were crossing a street or highway, or while they were playing in the road.

Drownings were responsible for one-fourth of the accidental deaths; a fifth of the drownings occurred outside the water-sports season May to September.

More than 10% of the fatalities were due to burns, conflagrations or explosions. It is clear that younger school children still play with matches; a number succumbed to burns suffered while playing with or near flammable liquids.

EPOONYMS

(H. J. Sims, Oklahoma City, in *Med. Rec.*, July)

The Academy of Science, long noted for its eternal bickering, have on various occasions established priority, and in so doing, it has not always adhered to chronological data. Blanchard, writing in 1889, defined an eponym as a sudden impulse of an individual, usually a medical practitioner, to rediscover a disease without recognizing the work of his predecessors. Many of the present accepted medical eponyms could be deleted from the literature without degrading interest in the subject.

Occasionally the name of a patient becomes attached to a disease. Andrews described a mass of hyperplastic glands in the abdomen of Mrs. Mortimer, and Hutchinson suggested Mortimer's disease. Friederich (1825-82) recognized hyperostosis of the bony structure in two brothers of the Hagner family—hence Hagner's disease. Flexner isolated the *Bacillus dysenteriae* from the stools of a patient named Harris, and wishing to divide honor with the patient, he gave it the name of Flexner-Harris strain of bacteria.

THE PRESENT available scientific evidence indicates that when fortified margarine is used in place of butter as a source of fat in a mixed diet, no nutritional differences can be observed.—H. J. Deuel, Jr., *Science*, Feb. 15th.

3. C. E. Koop, in *Geriatrics*, 1, 1946.

4. R. S. Boles & Wm. Dunar, in *Geriatrics*, 1, 1946.

DEPARTMENTS

ORTHOPEDIC SURGERY

JAMES H. CHERRY, M.D., *Editor*, Asheville, N. C.

TREATMENT OF THE COMMON ANKLE SPRAIN

MEMBERS of the Naval Medical Corps during the war popularized the use of novocaine injection for ankle sprains. There have been discussions in recent literature either upholding or disparaging this method of treatment.

Most of the cases originally reported were treated in the Navy, either at a port hospital, or a dispensary, or aboard ship, and although the Navy has a very vigorous life, there is considerable difference between the type of ground which a sailor has to walk on and that a soldier in the infantry has to traverse. The battle of maneuver field is quite a different proposition from a level shipboard or the level cemented grounds usually seen around naval ports. For that reason alone, this method of treatment without strapping did not meet with such favorable results in the Army.

In civilian practice, routine injection treatment without strapping and other orthopedic treatment should be religiously rejected. Let us take down our anatomy books for five minutes and turn to the diagrams describing the ankle ligaments.

In the first place, the most common ligament which is sprained is the calcaneo-fibular ligament. A simple sprain of this ligament, with a partial tearing, may respond very well to little of any treatment, and it is quite conceivable that novocaine injection alone would relieve the pain and allow the ligament to heal without subsequent bad effects.

If the sprain of this ligament is also associated with the sprain of the anterior or posterior talofibular ligaments, then we are getting into complications where simple novocaine injections, without some type of support, is not only contraindicated but dangerous, since these are the three main ligaments which hold the fibula to the tarsal bones. In the opinion of the author, a complete tear involving one or more of these main ligaments should be adequately strapped by means of adhesive and reinforced with some type of elastic bandage on top of the adhesive. I think it is permissible to go ahead and use novocaine before the strapping is applied.

If, in addition to the tearing of one of these three ligaments, together with a tearing of the tibiofibular ligament, then common sense will tell us that simple novocaine injection alone is not at all the indicated treatment, since a tearing of this lat-

ter ligament will usually give rise to widening of the ankle mortise and is often associated with a partial dislocation or subluxation of the talus itself at the ankle. This can be readily demonstrated by injecting novocaine into the area or better still, putting the patient under anesthesia by means of intravenous sodium pentothal, and forcibly inverting the foot, taking comparative x-ray films with the other ankle in the same position. If there has been a complete tearing of the calcaneo-fibular, together with a tearing of the anterior and posterior talus-fibular ligaments and a tearing of the tibiofibular ligaments with partial dislocation of the talus, a definite difference of the interspace between the articulating surface of the talus and the lateral articulating surface of the lower end of the tibia can be demonstrated. In a condition such as this, the usual treatment is to put the foot in eversion and then place it in a walking plaster cast. Immobilization should be continued for four to six weeks to allow ligaments to completely heal up.

If there is spreading between the fibula and tibia with widening of the ankle mortise, which doesn't respond to simple manipulation, then an open reduction and screwing of the fibula to the tibia is indicated. Usually, weight-bearing with a cast should be prohibited for three or four weeks following this type of procedure.

Sprains on the medial border of the ankle, involving the calcaneo-tibial ligaments, are usually of less consequence and less frequent than on the lateral aspect; however, if there is a complete tear of this ligament, then immobilization either with subsequent strapping and bandaging or with a plaster cast should be carried out.

Unless one keeps in mind these anatomical variations of sprains about the ankle, one will not intelligently treat these injuries. A novocaine injection into a sprained ligament in itself is not good scientific treatment; however, it is a useful adjunct to adequate immobilization. Chronic and persistent symptoms of pain due to inadequate healing of the involved ligaments or even to chronic sonovitis and arthritis of the joint proper is likely to arise unless these other procedures, as outlined, are considered in the initial treatment.

HOSPITALS

R. B. DAVIS, M.D., *Editor*, Greensboro, N. C.

DON'T KID YOURSELF, MR. EDUCATOR

THE SUBJECT of education in all fields of knowledge has been under fire for the last decade. One wonders why, when those most concerned are supposed to be the leaders of thought. It would be a great thing for the educators of our country, if they could look into the mirror of time and see the results of their labors rather than their own images.

Refusing to face facts, whether knowingly or not, has been the cause of the downfalls of peoples and institutions.

The day was when a college degree carried with it dignity, poise, prestige, social position, financial independence. Why now has it changed?

There are always two individuals vitally concerned about education—the teacher and the pupil. The teacher is supposed to already know the subject he is trying to teach and the pupil is supposed to want to learn the subject as presented by the teacher. If the teacher, however, does not know how to present his own knowledge so that the pupil's mind may want to grasp and be able to grasp and retain, there follows failure in the educational program.

Not everyone who stands in the lecture hall possesses the qualifications to teach. The plain truth of the matter is that these teachers, when they were pupils, were misinformed as to their assets and liabilities. Why there are so many misfits in teachers is a question which would fill volume after volume; but the two most important reasons are: either the person has been self-deluded as to his or her ability as a teacher or need of income has caused many disqualified by nature to undertake to so use their college degrees, or they are teaching simply to have something to do. This is frequently true in the case of women who are teaching until some man comes along with the right question.

How can those who are responsible for employing teachers find out who are qualified to teach? The old system was to decide by the number of degrees, and the teaching experience. This will be answered in calendar years and subjects lectured upon. The head of the institution in which the person has taught has probably never heard this teacher give a lecture or a quiz, and surely has never seen the written examination and the written questions or the answers to the questions on paper for as much as five per cent of the examinations given and answers obtained.

The student recognizes that he is the *under-dog*. An under-dog seldom hollers but turns tail down and goes off into a revengeful retreat, vaguely calculating on harming the teacher, the institution, or the future citizens of the country. Standardization might appear to be an easy solution, but it is impossible to standardize human beings and obtain the best that they have within them.

The writer is advancing here and now a new system of thought on this subject, to take the place of the one that is wrapped up so securely in the two words: requirement and standardization. It is essential that some people question some leaders in the educational world. There are few who would receive much from these super-educators, and those

who would receive an answer would be belittled immediately unless they were able to write strings of degrees after their own names.

In a meeting where the need for the prime essentials of reading, writing and arithmetic was under discussion, a graduate educator said "the average high school student of today can read better and spell better than those of a decade ago; in fact, we have the best educational system this State of North Carolina has ever had." His audience almost booted him off his feet, but this did not faze him. He continues now to kid himself into believing that his speech represented the true state of affairs.

It is obvious to any thinking individual that the proof of the pie is in eating, certainly not in the recipe by which it was made. It follows that those individuals who have sat under the same teacher from one to four years best know that teacher's ability to teach, and that the longer that student has had to put into practice in daily living what has been taught, the better qualified to determine the value of the teaching. Now the meat of the matter is that those who have been taught by a certain teacher know best how to grade his or her ability. And a graduate of ten years ago has a better knowledge of the value of the subject taught than one who has just put his sheepskin under his arm and walked off the platform.

So now, let us be practical and ask the students and the alumni to give us information as to the ability of our teachers and then do something about it. If a teacher does not obtain passing marks when so graded by former students, then it should not only be right and proper for this teacher to know his shortcomings, but unless he is willing to immediately undertake to overcome the faults, he should not be allowed the privilege and prestige of teaching the youth of our country.

Some will say it can't be done; this has been said about every step in the progress of mankind. Fulton was told that steam would not run an engine; Bell was told that it was absurd for man to talk into a wire and be heard twenty-five miles away; Marconi was told that he was crazy, for there was no way to communicate a message by the air; and Edison was told that no dark place would ever be lighted by an innocent piece of wire attached to a piece of glass that was as dark as the dungeon itself until something came through the wire to light it up.

I submit to my readers that something can be done about the educational system of our country and something will be done about the education of our youth and it will be in the very near future, by some man who is living and eating and sleeping just as you and I are today.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

RECURRENT APPENDICITIS AND LESIONS OF THE UROGENITAL TRACT: DIFFERENTIAL DIAGNOSIS

THE DIFFERENTIATION between recurrent attacks of appendicitis and a lesion in the urogenital tract is often a matter of great concern to the surgeon as well as to the physician. So Lazarus¹ introduces a subject of great importance, as he says, to surgeon and physician, but it should be remembered, of even greater importance to the patient.

Any disorder in the right kidney which causes pain radiating down the course of the ureter may lead to confusion in diagnosis. The common causes of renal pain are: a) calculi in the renal pelvis or calices; b) acute hydronephrosis resulting from intrinsic or extrinsic causes; c) passage of blood clots through the ureter; d) perinephritis, especially when it involves the 12th intercostal or the ilioinguinal nerve.

The passage of a ureteral calculus may cause symptoms much the same as those of appendicular colic. Diffuse or localized ureteritis or periureteritis, especially if the affected ureter is contiguous to a retrocolic appendix, may produce a symptom-complex not to be distinguished from appendicitis.

A deep-seated vesical diverticulum lying adjacent to the right ureter may compress it causing right lower abdominal quadrant pain, simulating appendicular colic. An infected diverticulum may become adherent to an appendix situated in the lower part of the pelvis, resulting in periappendicitis and appendicular pain.

Acute right seminal vesiculitis may cause pain in the lower abdominal quadrant which closely mimics appendicitis. Periureteritis of the lower part of the right ureter is usually the cause, and results from contact with an infected seminal vesicle situated close to it.

Of prime importance in making a diagnosis are:

In an appendicitis pain commences in the epigastrium and subsequently localizes in the right lower abdominal quadrant. Vomiting often follows the onset of pain.

A patient with an attack of ureteral colic complains of pain in the loin radiating to the groin or testis. The temperature is usually within normal limits; and vomiting is rare. The t. is acute usually and varies 98.6 to 101; in urologic disorders the t. is extremely variable. In case of calculus uncomplicated by pyelitis, the t. is rarely elevated; in urogenital infections the t. is high, often remittent.

Tenderness in the McBurney area is the characteristic feature in acute appendicitis, while cos-

tovertebral tenderness is frequent in diseases of the kidney.

By palpating lightly over McBurney's point, a distinct contraction of the right cremasteric muscle occurs.

By placing the tips of the fingers under the left costal margin in the region of the spleen, having the patient take a deep breath, exhale and then cough, the patient will be caused "invariably" to point to the site of the appendix when it is acutely inflamed.

Rovsing's sign is also of value. Steady pressure is made over the pelvic colon with a consequent filling of the cecum by gas. Then, if pressure on the left, lower abdominal quadrant corresponding to McBurney's region, causes pain in the right iliac fossa, it is highly suggestive of acute appendicitis.

A careful digital rectal examination, an indispensable part of all physical examinations, readily rules out acute seminal vesiculitis.

Leukocytosis is more frequent in acute appendicitis than in non-infectious conditions of the kidney. In urinary conditions it is of little aid in differentiation, because the leukocyte count is elevated in both conditions.

The presence of red blood cells in the urine, with or without leukocytes, calls for urologic investigation, regardless of any apparent urgency. Cells in the urine are rarely found in appendicitis, unless the inflamed appendix is in direct contact with the ureter. In women, urine should be obtained by catheter. Absence of cells does not rule out a urinary-tract lesion, since the ureter of the affected kidney may be completely occluded.

Hematuria, pyuria, or both may occur in acute appendicitis as a result of direct spread, and involvement of the bladder wall. The localized inflammation of the vesical mucous membrane, or actual inclusion in an abscess, may cause the hematuria. Thus, blood or pus in the urine does not necessarily exclude the possibility of acute appendicitis; and there are examples of early acute appendicitis with slight hematuria or pyuria. The appendix may rest against the right ureter or on the bladder dome. An indication that the appendix is unruptured is furnished by the elicitation of epicitis hyperesthesia in Sherren's triangle.

Roentgenography should be carried out when the diagnosis is in doubt because it may show a radio-opaque calculus on a scout film, or a hydronephrosis revealed in a pyelogram.

Cystoscopy is also indicated for patients with symptoms suggestive of urinary-tract pathology. This should at least include the passage of a catheter into the right ureter. An obstruction to the passage of a catheter, particularly when associated with urinary retention in the right renal pelvis, regardless of roentgenograms or microscopic

evidence of cells in the urine, signifies a renal pathologic change and indicates further investigation before resorting to surgery. In view of the fact that cystoscopy is a rapid procedure if expertly carried out, and entails little or no risk to the patient, its more general use in questionable conditions is recommended, as an important means of saving the patient from unnecessary and contraindication.

DENTISTRY

J. H. GUION, D.D.S., *Editor*, Charlotte, N. C.

DENTAL PLAQUE FLORA: BEGINNING CARIES

THE PROBLEM of the etiology of dental decay remains perplexing. The theory of Miller, explaining caries on the basis of dissolution of the tooth enamel by acids of bacterial origin, has gained support from many investigators, partly because of its plausibility and partly as the result of slowly accumulating evidence in its favor. Final proof, however, is still to be obtained. The complexity of the oral flora and the meagreness of knowledge about this bacterial population under normal conditions make investigations hard to plan and results difficult to interpret.

Thus Hemmens¹ introduces us to his contribution to this subject. And he goes on:

Most discussions of this problem have centered on a single active agent but the possibility of several agents or an association of bacteria being responsible for dental decay, as suggested by Bibby, must be considered. Many of the oral flora, for example, the fusiform bacteria, are able to produce enough acid in the test-tube to decalcify teeth; but very little is known about what these forms would do in their natural environment. Study of the symbiotic and synergistic relations of the oral flora might yield useful information, but much more detailed study on the bacterial flora of the tooth surface is needed before it will be possible to determine the nature and degree of association of various bacterial forms with the caries process.

In a study of the relation of the bacterial flora to caries, the plaque is the logical source of culture material because of its association with the enamel surface in areas which are prone to decay. The tenacious nature of the plaque facilitates its removal from the tooth surface and makes it possible to free it from gross superficial contamination from saliva and mucous membranes.

The primary purpose of this investigation has been to ascertain what microorganisms are contained in the cultivable indigenous flora of the tooth surface before and after caries appears.

1. E. S. Hemmens *et al.*, Chicago, in *Jl. Dental Research*, Aug.

It is not possible to set a limit on the time necessary to produce a carious lesion. Although the evidence presented indicates that the process is usually slow and insidious it may start in some individuals as soon as a plaque containing the causative organisms is formed and contact with the adjacent tooth has become established.

Assuming that the etiological agent is included among those microorganisms that were cultivated from the plaque, the results of the experiments here reported indicate either that the techniques of isolation are inadequate or that the responsible organisms are sporadically present. The maximum incidence found for any microorganisms in the carious period was 86 per 100 plaques, this being the group of aciduric streptococci. The alpha streptococci, which were found in slightly more than half the plaques from carious surfaces, were encountered much more often (73%) in the plaques from non-carious surfaces. The lactobacilli, which definitely increased in incidence throughout the period in which the lesions developed, were not isolated from more than 57 per cent of the plaques at any one interval.

Filamentous forms, actinomyces and leptotrichia invariably were seen in smears, but frequently failed to grow in cultures of the plaques. There did not appear to be any modification of the flora of the plaque due to repeated removal for cultivation, since it was found many times that plaques were renewed within 48 hours.

The cultivable microbial flora of dental plaques has been studied beginning with the newly erupted tooth and continuing through the period of early enamel decay until after lesions had become well established.

Leptotrichia and actinomyces, alpha hemolytic streptococci, fusiform bacteria and several species of Neisseria were among those forms which decreased in incidence with the progress of the lesion. Lactobacilli were the only bacteria for which there was definite evidence of increased incidence in association with the development of carious lesions.

OPHTHALMOLOGY

HERBERT C. NEBLETT, M.D., *Editor*, Charlotte, N. C.

SOME COMMON ERRORS OF THE GENERAL PHYSICIAN IN DEALING WITH FOREIGN BODY INJURIES OF THE EYE

CALLING ATTENTION to errors, however gently it may be done, rarely fails to give some degree of offense, even when the words used are those of another. Here are quoted the wise words of Moncreiff.¹

At least three-fourths of these cases are small foreign bodies embedded superficially in the cornea

1. W. F. Moncreiff, Chicago, in *Clin. Med.*, Sept.

or in the tarsal conjunctiva, less frequently in the bulbar conjunctiva, or sometimes especially in the case of very small fragments of glass, in the retro-tarsal folds, especially above.

It is common to fail to discover the foreign body or bodies, especially those on the cornea, hidden in the retro-tarsal folds. Fluorescein is of value in nearly all cases in locating a foreign body in the cornea or an abrasion produced by any type of injury. Should the foreign body lie in the retro-tarsal folds it may have caused lacerations of the conjunctiva and such lesions will also stain with fluorescein.

A common error is to inflict unnecessary trauma to the cornea in the process of removing the foreign body with a sharp spud. Many of these are superficially embedded and can readily be removed after surface anesthesia with pontocaine, by the use of a moist, sterile, cotton-tipped applicator.

Should the foreign body be too resistant to this method a spud with a sharp, rounded edge, not sharply pointed, is to be used. Unless the g. p. is sufficiently skilled in the use of these instruments, and particularly if the foreign body has caused thermal or chemical necrosis of corneal substance so that a mass of tough necrotic corneal tissue has to be removed, it is desirable that such cases be referred to an ophthalmologist.

Many patients with only slight, superficial abrasions of the cornea after foreign body removal and little or no reaction are unnecessarily inconvenienced by the use of a bandage, dressing, or patch, or by a mydriatic, such as atropine.

If mild inflammatory complications of the cornea or iris occur, homatropine may be substituted for atropine. In a small proportion of cases, some inflammatory process in the cornea, with secondary iritis, occurs after removal of a foreign body from the cornea. Neglect in the proper care of such complications will result, at best, in additional disability and discomfort, at worst, in some permanent visual defect, or, in rare cases, in loss of the eye.

An important rule in the after care is that every patient should be seen the day following removal of the foreign body, and a careful examination made, especially of the site of injury. Should there be signs of any complication, as above noted, the patient should be placed under the care of an ophthalmologist.

Two other important conditions are to be noted: 1) the possible result of contusion, such as intraocular hemorrhage, of greater or lesser severity, with hemophthalmos or merely hyphema. Various complications are possible, one of the most important, and preventable, being secondary hemorrhage one or more days after the injury. Such injuries

should never be regarded lightly, and immediate hospitalization of the patient, under care of an ophthalmologist, is demanded. In these cases, full doses of vitamins C and K, and of calcium salts, are essential. 2) The penetrating injury with retention of a fragment of steel or iron, not suspected by the patient, nor immediately obvious on inspecting the eye. The wound of entry, whether corneal or scleral, may be very small and difficult to find. The history is of great importance. Such injuries are most likely to happen to mechanics working, without protecting goggles, around metal lathes and other high speed power tools, or to persons who hammer a steel chisel or wedge with a steel or iron hammer; and as a result of explosions. In any such case, roentgenograms are essential.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

TRIGEMINAL NEURALGIA

TRIGEMINAL NEURALGIA is a severe, sharp, and paroxysmal pain in the face most common in persons over 50 years of age. Cold wind, washing the face, talking, opening the mouth chewing, or movement of the tongue may provoke the pain, or the paroxysms may occur spontaneously. The important diagnostic point is the paroxysmal nature of the pain.

A practical article¹ on this subject goes on:

Novocaine block of the branches of the trigeminal nerve will stop the pain for a few hours. The safest nerves for injection are the supraorbital, infrabrow, and mandibular, each at its corresponding foramen exit from the skull. Eighty to 95% ethyl alcohol injected directly into the nerve will succeed until the peripheral nerve regenerates, usually in six to 15 months. A second injection, according to Maxwell, is less likely to succeed, as the nerve is usually then encased by and infiltrated with scar tissue and the alcohol will have difficulty in permeating through to all the nerve fibers.

Alcohol injection of the gasserian ganglion may be very dangerous; in the majority of cases it is impossible of performance because of the anatomic relationship of the foramen ovale.

Trichlorethylene by inhalation is recommended for transient relief of severe paroxysm. Vitamin B has not been proved to be of specific service in the therapy of this disease. Recently ferrous carbonate has been reported as being somewhat palliative.

For permanent relief elective neurologic surgery is undertaken. The operation of choice is the classical temporal approach to the sensory root. An

1. H. P. Maxwell, Milwaukee, in *Wis. Med. Jl.*, Aug.

interruption of the fifth nerve central to the gasserian ganglion, retrogasserian neurotomy, will be permanent and no regeneration can occur. The operation is done with the patient sitting up. Local or general anesthesia may be used.

In a few instances patients who have had a successful operation on one side have a recurrence on the other side of the face years later. The surgeon is loth to leave the patient with a completely anesthetic mouth from cutting both sensory roots; also, the temporal operation may expose the motor root to trauma and if both motor roots were to be damaged whether it be by surgery or by a deep third-division alcohol injection, a jaw drop might result and chewing be difficult or impossible.

A new surgical procedure, medullary tractotomy, has been found useful in attacking the problem of intractable pain in the face, especially in a case of recurrent bilateral tic douloureux. In this operation a sectioning of the descending spinal tract of the fifth nerve is made in the medulla oblongata. There is one area, 4 mm. below the caudal end of the fourth ventricle and 7-11 mm. lateral to the mid line, where this tract comes to the surface of the medulla. A cut to a depth of 4 mm. will abolish pain and temperature sense in the face and leave touch and pressure sensation intact. As cerebellar and pyramidal motor pathways are spared, ataxia and weakness are not a complication, and the motor root to the muscles of mastication is not exposed to danger. Thus the patient is still able to take food and drink and feel objects touching the face, eye, and inside the mouth, on the side of the section.

This operation is best done under ether given endotracheally, using the cerebellar route to the medulla. It has been used successfully on many occasions for trigeminal neuralgia and is of similar value in cases of intractable pain in the head from involvement of the trigeminal, glossopharyngeal, and upper three cervical nerves in carcinomatous metastases. With one exposure, a medullary tractotomy, intracranial section of the glossopharyngeal nerve, and a rhizotomy of the posterior roots of the upper three cervical nerves can be done.

The mortality from any of the these accepted procedures is less than one per cent in good hands.

My own results in nerve injection, first with novocain, then with alcohol, are far better than those generally reported. Injection of branches of the facial nerve, in many instances, give complete relief for two years, and in some cases three repetitions have been equally successful.

PENICILLIN IN THE TREATMENT OF SYPHILIS

SUFFICIENT time has elapsed since the introduction of penicillin into use as an anti-syphilitic agent, for the making of a fair estimate of its place

in the therapy of this disease. Every doctor of medicine will wish to have his knowledge of how best to manage this plague kept right up with the van.

Falk¹ gives an excellent, clear-cut description of the findings in this regard to date.

Penicillin is probably the drug of choice in the treatment of early (primary and secondary) syphilis. The minimum total dosage should be 3.6 million Oxford units for *seronegative primary*, 5.4 million for *seropositive primary and secondary*. Smaller doses result in a high relapse rate. The intramuscular injection of equal doses of aqueous or normal saline solutions of penicillin given q. 2 to 3 h. for seven to eight days gives results superior to those obtained over a shorter period or by using longer intervals between injections.

The Jarisch-Herxheimer reaction is encountered in 75% of early cases but practically never necessitates interruption of treatment.

With penicillin in latent syphilis sero-negativity is often not attained with the dosage used to date; however, with optimum methods of routine arsenobismuth therapy 35% of latent cases remain seropositive. A number of syphilologists think that penicillin in adequate dosage will be protective against late complications in the majority of cases.

In prenatal syphilis penicillin will give results as good as or superior to those obtained with arsenobismuth therapy.

It is recommended that 3.6 million units be given according to the plan previously outlined, and the mother followed closely during the remainder of the pregnancy.

Penicillin given in early congenital syphilis in doses of 40,000 to 60,000 units per pound administered over a 10- to 15-day period, has given gratifying results, clinically and serologically, in a small group of cases. In interstitial keratitis, a frequent manifestation of congenital syphilis, penicillin has not solved the problem.

There is no reason to believe that short courses of penicillin alone will be the answer to the management of late syphilis, but it may be a valuable adjunct.

Penicillin's place in the treatment of central nervous system syphilis has not yet been determined. Intensive penicillin therapy is contraindicated in patients with cardiovascular syphilis. There is evidence that treatment with small doses of penicillin and mapharsen, administered in combination, is productive of better results than can be had from full doses of either alone.

Every physician treating gonorrhea must bear in mind the fact that the dosage of penicillin used in the treatment of this infection is sufficient to mask or delay the early symptoms of a concurrently ac-

¹ M. S. Falk, Salt Lake City, in *Rocky Mountain Med. Jl.*, Oct.

quired syphilitic infection, even though it is not likely to destroy all the spirochetes. It is especially important to impress this fact on the patient and encourage him to have serologic tests for syphilis repeated at intervals for a minimum period of 90 days.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M.D., *Editor*, Charleston, S. C.

THE TREATMENT OF EPISTAXIS BY SCLEROSING INJECTIONS

WHILE WORKING with sclerosing solutions during the past few years to reduce the size of the turbinate in chronic vasomotor rhinitis, the author became interested in the possibilities of treating bleeding vessels in the nose by sclerosing injections. At first the technique was attempted on small anterior septal varicosities that were the cause of recurrent epistaxis. The varicosities were obliterated in every case, usually by one injection of the sclerosing agent; only seldom was a second injection necessary. At present the author has dispensed with the cautery and simply injects the sclerosing solution in the presence of active bleeding, thus achieving immediate control of the bleeding and permanent obliteration of the vessels by sclerosis.

In actively bleeding cases, a pledget of cotton moistened with either 0.5% pontocaine or 4% cocaine applied firmly against the area for several minutes provides adequate anesthesia for the subsequent injection and frequently temporary control of the bleeding. The cotton tampon is quickly withdrawn from the nose and from 0.25 to 0.5 c.c. of Sylnasol* (sodium psylliate solution, Searle) is injected *into* the mucosa just beneath the bleeding point, so that a vesicle appears, using a tuberculin syringe and hypodermic needle. The vesicle thus raised almost always controls the active bleeding by the pressure resulting from the distention of the tissues. If so, nothing further is done; otherwise, another 0.25 c.c. of Sylnasol is injected similarly after a few minutes. In no case have more than two injections been necessary. Should this fail, however, pressure packing would be required for the immediate control of the bleeding, this removed in 24 hours. The patient is observed every other day for the next week, by which time the bleeding vessel has become completely obliterated by sclerosis. If any other varicosities exist, a similar injection is performed again at the end of a week's time.

If the patient presents himself with septal varicosities which are not bleeding at the time, 0.25 c.c. of Sylnasol *intramucosally* at the site of the vessels under pontocaine anesthesia, will obliterate a number of small vessels. Observe at the time of the

¹ A. P. Friedman *et al.*, New York, in *Jl. A. M. A.*, Nov. 2nd.

injection the blanching effect on the mucous membrane.

More than 100 patients, both children and adults, have been treated for recurrent or acute epistaxis by injecting a sclerosing solution into the mucosa at the site of the bleeding point. In every case where the bleeding point could be located, the hemorrhage has been controlled by this technique. In the chronic recurrent variety due to varicosities, occasionally several injections at weekly intervals have been necessary to obliterate all of the vessels. Usually one injection suffices. Where varicosities exist on both sides of the septum, the author has preferred to inject one side at a time, repeating the procedure after three or four days on the opposite side.

The author has employed Sylnasol injections in the nose in more than 500 cases of chronic vasomotor rhinitis and in epistaxis; no serious side-effects have been observed and there have been no complications. The patient may experience a sense of fullness in the nose, slight retrobulbar discomfort, moderate lacrimation or some sneezing; but nothing more serious has been observed. The side-effects are quite transient and last only five or 10 minutes. The resultant edema at the site of the injection often produces slight nasal obstruction on that side for a few days. This is seldom severe enough to be annoying, however.

¹ S. L. Fox, Baltimore, in *The Laryngoscope*.
G. D. Searle and Co., Chicago, supplied the "Sylnasol" used in this investigation.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

MANAGEMENT OF PATIENTS WITH CHRONIC HEADACHE

THIS article is viewed with favor, and reviewed, for two reasons: (1) it concerns itself with the commonest affliction of human kind; (2) it says that the family doctor is competent to manage the vast majority of headaches in general, and of headaches of psychogenic origin. In other words, that the family doctor can and should practice psychiatry.¹

Mirabile dictu.

The great majority of all patients with chronic headache fall into one of the three following groups: migraineous, post-traumatic, or psychogenic. The first two need no further definition here. In the third group we include patients whose headaches are found to be related to emotional stress, the relationship being seen either at once or after some study. They are chiefly women who have had headaches for many years, of either the acute-recurrent, or the continuous chronic type. The lo-

cation and character of the headaches are variable, and there may be premonitory photophobia, nausea or dimness of vision. In nearly all the women patients, the headaches are worse before or during menses.

The mechanism of all three of these types of headache is probably vascular. All three types of headache are readily precipitated and made worse by emotional stress and inner conflicts.

Every patient with a chronic headache should have a thorough physical and neurologic examination. In the authors' clinic roentgenologic examination of the skull and electroencephalograms are also routine; certainly these and other laboratory studies should be done whenever indicated. It is just as important that the patient be studied adequately from a psychiatric point of view.

A word of warning against the fallacy of assuming that a headache is psychogenic simply because it is described as a pressure sensation, or as being viselike, or of hat-band distribution.

On patients who complained of headache at the time of examination, Friedman has practiced the simple procedure of local infiltration of the scalp with procaine hydrochloride (1 or 2%), or isotonic solution of sodium chloride. This procedure usually brought relief within a few minutes after injection of either solution when carried out on patients with psychogenic headaches; but patients with headaches due to migraine or cerebral tumor were not relieved. In the patients so relieved an injection on one side of the scalp generally relieved the headache in that half of the head, and a subsequent injection on the other side relieved the rest of the ache. A lasting therapeutic effect was not obtained by the procedure in any patient, and its only value would be as a roughly reliable diagnostic guide in patients who present themselves to the physician for the first time with an acute headache.

The treatment should be pharmacotherapy and psychotherapy. In migraine, derivates of ergotamine are accepted as the medication of choice. These drugs are useful only in relieving an acute attack. The commonest cause of failure to achieve satisfactory relief is the use of too small a dose. The relief afforded by yergotamine derivates is enhanced by the addition of a dose of one of the short-acting barbiturates at the beginning of the attack.

For the relief of a post-traumatic or psychogenic headache the most satisfactory medication is a salicylate or acephenetidin, with caffeine and one of the short or medium acting barbiturates.

Endocrine therapy has been recommended by many for various types of headache. Eight of the patients with menstrual or premenstrual headaches were given testosterone propionate (30 to 100 mg.

in divided doses, both orally and intramuscularly), with considerable improvement in two, moderate improvement in three and no improvement in three.

A combination of psychotherapy and drug therapy has been found much more effective than the latter alone in reducing the frequency, duration and severity of any of the three types of headache. It is only by reducing the mental stress that the headaches can be reduced in frequency and severity and often rendered easier to control by suitable medication when they do occur.

Advice as to mental hygiene, reassurance and the opportunity to ventilate anxieties and conflicts are within the province of the practitioner and in favorable cases will produce good therapeutic results. In other cases in which the patient's mental difficulties are greater, or more deeply repressed, it seems best to refer the patient to a specialist. It is emphasized that a large group of these patients will respond satisfactorily to the type of psychotherapy described, which is well within the province of the general practitioner.

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

PYROSIS

ALL THE WAY from South Africa comes an article¹ to show that the Englishman's dyspepsia, as well as trade, "follows the flag." Some points made in this article are deemed well worthy of passing on to our readers.

The recommended palliative treatments for pyrosis reflect their usefulness. Treatment along dietary and pharmaceutical lines has been a little more successful, but has failed to cure the pyrosis, while the gastroduodenitis and the colitis tended to recur on discontinuation of the therapeutic measures. Attention to the genitourinary tract brought local relief to most patients and many of the systemic symptoms abated; particularly noticeable was the influence on the gastroduodenitis and the colonic symptoms. The pyrosis was much reduced in severity where treatment of the urinary-tract disorder was adequate, yet persisted until endocrine therapy was instituted, when it cleared up in most cases. The most effective general remedy was dried thyroid in appropriate dosage. Suprarenal cortical hormone and ovarian extracts, particularly corpus luteum preparations were suitable adjuvants. As the patient improved in general health, the dosage of these endocrine preparations could be discontinued. The objective is to restore to normal life and keep comfortable by attention to the underlying conditions, lest recrudescence manifest itself.

¹ G. W. H. Schepers, Johannesburg, S. Africa, in *Amer. Jt. Dig. Dis.*, Oct.

from time to time. In the lesser forms of pyrosis it has been possible subsequently to bring about complete cure of the symptom by rectifying minor endocrine imbalances and treating associated minor infections or irritations of the urinary tract and colon.

The clue to successful treatment may be found in the nature of pyrosis. It is not a pain. Alimentary tract pain is caused by spasm or colic or by distension or by traction on the mesentery. Apart from these factors, or from irritation of the peritoneum (which is, embryologically speaking, not a constituent of the alimentary tract) no other form of ill-usage of the viscera appears to cause pain. What can cause pyrosis? Ingestion of HCl causes no immediate discomfort in the average subject; nor does neutralization of the acid of the stomach by alkalis. But most normal persons will experience transient deep-seated, substernal discomfort on swallowing excessively hot or cold liquids.

Perhaps pyrosis is a form of visceral paraesthesia, referred to the gastric terminals of the splanchnic or the vagal nerves, and felt in the areas of distribution of the 7th-9th thoracic nerves through central association.

Peripheral paraesthesia is commonly associated with hypothyroidism.

Where the pressure within the renal pelvis is increased it may be that products of bacterial metabolism may find their way into the blood stream, be excreted in the stomach or colon in the same way as morphine, for instance, and continue to be re-excreted into the stomach after their absorption. Such a hypothesis may explain the origin of gastroduodenal and colon irritations, and incidentally account for the origin of pyrosis even in those cases where it is present apart from any discoverable gastritis or duodenitis, but where infection plus relative obstruction may be demonstrated in the lower or upper urinary tract.

At least three pathological syndromes are related to pyrosis. These are referred, respectively, to the endocrine, urinary and alimentary tracts.

WHY LUGOL'S SOLUTION?—THIOURACIL

(H. M. Korns, Dubuque, in *Jl. Iowa State Med. Soc.*, Aug.)

MANY of us can remember with what haughty disfavor the surgeon formerly looked upon the practice of some good doctors of administering small doses of potassium iodide to patients with active Graves' disease. The idea was to bring about a reversion of the hyperplasia of the gland, and insult was added to surgical injury when some of these patients recovered, although most of them had only temporary remissions. Then, in 1923, Plummer convinced the surgeons that the preoperative administration of iodine as good practice because it not only lowered the metabolic rate, and thus minimized the danger of thyroid crisis, but also made the job of doing the operation easier, and reduced the mortality rate.

Why Plummer chose Lugol's solution for this purpose is not clear. It is no more efficacious than any other iodine

preparation, and it is not as palatable as syrup of hydroiodic acid. The real reason, Korns suspects, is that the name, on the face of it, does not disclose the fact that it is a mixture of iodine and potassium iodide, and thus those who had long been allergic to the use of iodine in Parry-Graves' disease were desensitized by a euphemism. Actually, the popularization of Lugol's solution for this purpose has had only one regrettable result, and that is etymological; we are now the barbarously "lugolized" victims of "lugolization."

To what extent thiouracil treatment will obviate the need for thyroideectomy is still unknown. In cases in which surgical treatment is contraindicated because of the patient's advanced age, his lack of a goiter, his poor general condition, or the fact that he has already been operated on without benefit, thiouracil is much more promising as an arresting agent than anything we have ever had before.

Unless, in addition to thiouracil, iodine is given immediately before thyroideectomy, the use of this new preparation makes the surgeon's task more difficult because it renders the gland more friable and vascular; that is, it aggravates a condition which already existed, and one which only iodine can alleviate. It should be remembered, also, that iodine inhibits the action of thiouracil to some extent, so that, if the former has recently been used, one any conclusions concerning its effect can be drawn.

PRURITUS ANI

(M. W. Holehan, Memphis, in *Jl. Tenn. Med. Assn.*, Aug.)

For the past five years I have used nupercaine in oil, from 5 to 15 c.c. at one injection. If caution is used to inject this underneath the skin and avoid putting it into fascia, skin or muscle, and injecting only a few drops in any one place, you will not get into any trouble. Should you get it into the skin or fascia it might cause a sterile abscess that would have to be drained. After injection, a thorough massage of the perianal tissues is done to break up pooling of the oil and disseminate the anesthetic.

Next a therapeutic light is put over the anal region for 45 minutes, and the patient then allowed to go back to work or do anything that he desires. This anesthesia give complete symptom relief in about five minutes, thereby giving the diseased and traumatized perianal skin a rest period; also the injected medicine causes an extreme hyperemia and the added phagocytic action of the blood promotes healing.

To render the patient symptom-free and bring the perianal skin back to its normal condition, in the milder cases one to three treatments are all that are necessary; the severe cases may need from five to 10 treatments.

Surgery is now indicated if the foregoing treatments are to remain effective; otherwise in a period of months the condition will be as bad as ever. The operation must be thorough—every crypt, fissure, ulcer, papilla, hemorrhoid, fistula, and skin tag should be removed, because you never know which is the offending lesion. The postoperative recovery is rapid and hospitalization is short.

THE MAJORITY OF INFANTILE HEMANGIOMAS disappear spontaneously. Because not all disappear, as proved by their occurrence in adult life, and because with proper treatment the risk involved is very small and the sequelae inconsequential, it is advisable to treat the majority of them, leaving untreated only those which, for size and location, are suitable for later surgical removal, should they not disappear.—F. Ronchese, in *R. I. Med. Jl.*, Sept.

PENICILLIN SODIUM, CRYSTALLINE, potent 3 years, kept outside the ice box is now available.

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

DR. HARDIN CRAIG'S APPEAL

THE eloquent and learned Dr. Wyndham R. Blanton introduced Dr. Craig to the assembled members of the Southern Psychiatric Association in these well-chosen words:

If our guest had been born one hundred years ago, he would have been a Virginian. As it is Virginia must yield that honor to her eldest daughter state, Kentucky.

For many years Dr. Hardin Craig has taught English to many students in many of these United States, occupying chairs successively at the University of Minnesota, at the University of Iowa, at Stanford University, and now at the University of North Carolina. The Chancellor of the University of North Carolina recently described Dr. Craig as one of the wonders of Chapel Hill; a happy and productive scholar, steeped in the thought and literature of the Renaissance; a teacher, writer and public speaker, concerned with the application of the truths and insights in literature to the care and development of the human spirit.

If you are familiar with one of his recent books, *The Enchanted Glass*, a study of the Elizabethan mind, I am sure you will agree that he is well equipped to address a body of psychiatrists on an occasion like this.

In football the execution of a triple pass inevitably leads to excitement. The ball which your chairman has just handed to me I now pass with pleasure and high expectation to our speaker of the evening, Dr. Hardin Craig, Professor of English at the University of North Carolina. His subject is *A Renaissance, Now!*

Dr. Craig.

Dr. Craig's inspiring—and I save that word for rare occasions—address is carried in this issue.

There be not many among us who question the shibboleth of the ninety-and-nine, "whatever is is right." Not a few of us would go to the other extreme, and say that the majority of what is is wrong.

Here must come to mind the question of what we mean by right and wrong. When I was much younger I learned from that remarkable, but little known, book, "The Philosophy and Practice of Slavery," by the at that time president of Randolph-Macon College, that *a right is a good*. As simple and easy as that is the final, dogmatic and conclusive answer to a question commonly said to be insusceptible of answer.

You will have learned something of Dr. Hardin Craig from the tribute paid by Dr. Wyndham Blanton in introducing him to the select body before which he so recently spoke. You will learn much more about Dr. Hardin Craig, and learn to

rate him high among the rare and radiant beings that have shot across our firmament in the stretch of history.

Dr. Craig and Dr. Matheson may well be thought and spoken of as fellows. Both exemplify both practicality and vision. I ask you to study the wonderful thesis which Dr. James K. Hall's thoughtful anticipation and Dr. Craig's kind consideration permits me to spread before the readers of this journal.

To attempt to add materially to what Dr. Craig has to say would be but to paint the lily or to gild refined gold. All of us who undertake to think have long realized that the modern idea that 40 hours of being on the job does not constitute a week's work. Most of us realize that the so-called work of the intelligencia falls as far short of what might be, or should be, as does the so-called work of the members of our so-called labor unions.

All of us are content to measure our accomplishments by too poor a standard. Unless we awaken to the fact that our standards are far too short of what they should be, and of what is ready of accomplishment, it is entirely possible, nay almost certain, that what we fatuously call Western Civilization will soon perish from the earth.

Dr. Craig is a prophet. He calls to us to awake and acquit ourselves as men. He tells us, and truly, that the time is now.

THE MATHESON FOUNDATION LECTURES

THESE lectures, established by provision of the will of Doctor James Pleasant Matheson, have not been held with the regularity that the testator would have desired. However, practical man that he was, he would have understood and approved of the decision of those he charged with the execution of the provisions of his will in this regard.

The lectures under this Foundation for this year, held October 31st-November 1st, were of such quality as would have gratified Dr. Matheson, for his mind was of that quality which aims at results, and the results of these practical presentations cannot fail of proving of the best, for these teachings must result in the saving of health and of life.

It would be trite to say that the list of lecturers includes medical men high in the leadership of medical practice and medical teaching. Many among them have established such reputations as to make them authorities wherever modern medicine is known and valued.

The attendance on this course of lectures would have been gratifying to Dr. Matheson, as it was to those who have it in charge to carry out his instructions, for it was, in quality and in quantity, all that the fondest expectancy could have anticipated.

Long ago it was said, "Where there is no vision

the people perish." Doctor Matheson was by no means the kind of man that is ordinarily called visionary. He was that far higher and rarer product of humanity, a practical man with a vision.

This vision is bearing fruit in due season.

WHAT IS WRONG WITH THE DYSPEPTIC WHOSE FINDINGS ARE ALL NEGATIVE?

ALVAREZ' pronouncements are always wise, always timely, always pithy, always pertinent. In the article¹ here commented on he is all four. But bear it in mind (1) that every specialist magnifies the importance of his own corner of the lot, and (2) that when a patient has gone no farther in quest of relief than from his home to his family doctor's office, he will not be nearly as ready to accept the advice "learn to live with your discomforts" as when he has gone all the way to Rochester and hears the words from a great specialist.

One of the best signs of a nervous breakdown is the fact that the patient cannot read much. Ask "Why not?" and he will say that in the first place, he is not much interested, and in the second, his eyes tire quickly, the lines run together and he forgets a paragraph before he has finished reading it. Another important symptom is an inability to sit through a movie; the patient soon gets restless and leaves. A woman, if she goes to church, will sit in the last pew at the back so that she can slip out if she feels compelled to.

When an older person suddenly breaks down nervously and becomes physically changed the physician should always wonder if he or she has had a small stroke. Such strokes are common in persons past 50 years of age. They are due usually to thrombosis in a small intracranial artery, and the victim does not have to have hypertension. A strong point in the history often is that the breakdown came suddenly, usually on the morning of a certain day. Highly important is the fact, when it can be elicited, that a person who was previously active, efficient, friendly and optimistic suddenly became slowed-up, forgetful, irritable, unable to work, and perhaps without interest or joy in life, family and friends. Sometimes there is a marked loss in memory or a change in the handwriting.

Usually the patient consults a gastroenterologist. One reason is that when the small artery in the brain became plugged a sort of storm went down the vagus nerves to produce vomiting or uncomfortable sensations in the abdomen; the patient was thought to have acute indigestion, whatever that is. Another reason is that there was dizziness or vertigo which was thought to be due to disease of the liver, another that after the little stroke the patient's weight fell off. The wise clinician will suspect cerebral arteriosclerosis the minute he sees

¹ Walter C. Alvarez, Rochester, Minn., in *Jl. Ark. Med. Soc.*, Oct.

grease spots on the coat of a cultured man, and other signs indicating a loss of proper grooming and mental health. It is highly important in these cases that the correct diagnosis be made promptly. In most cases the prognosis as to a return of health is bad, and there is no known drug that will make the patient more comfortable.

Another usually unrecognized cause for a nervous breakdown with abdominal discomfort is an attack of encephalitis, not diagnosed when it came. Many such cases are seen in which the attending doctor could easily have made the correct diagnosis if only he had suspected a nervous breakdown, had noticed the lack of expression in the patient's face, had gotten the story of inability to work, and then the story of a preliminary illness with perhaps somnolence, severe headache, double vision and mental hebetude.

One of the commonest forms of nervous indigestion is associated with a bowel that is sore and growls much of the time. The patient may from time to time pass considerable amounts of mucus in the stools and the roentgenologist will report spasticity of the descending colon. These people are likely to get into trouble when they go through any emotional storm, or when they eat some food to which they are sensitive, or when they are coming down with a cold, or perhaps when they let themselves get constipated or when they take bulky foods or too many laxatives.

These persons must be taught how best to live with their colon. They will never come to any bad end because of it. Many can be helped much by taking a daily enema of physiologic salt solution, while others need a dose of codeine before they go out to a party.

A large number of persons appear to have been born to be dyspeptics. Many of them get along fairly comfortably so long as they eat only small amounts of food. Some have a flabby intestinal musculature or a poorly developed gastrointestinal mucosa. Others have a pancreas or a liver which works inefficiently; others had in childhood diphtheria or poliomyelitis or some other disease associated with a neurotoxin which destroyed some of Auerbach's plexus, and left the bowel overirritable, disposed to cramp, or to allow gastric waves to run orad almost as easily as candad, and thus to cause regurgitation, heartburn and other digestive distress.

There are many persons whose digestive tract is much too sensitive; the minute food is put into the stomach there is a cramping or bloating or a feeling as if the bowels were going to move. Usually one finds this type of digestive tract along with exaggerated knee jerks.

Some stout persons who complain of heartburn and foul flatus gorge themselves until the digestive

powers of even their strong stomach and bowel are overtaxed and overwhelmed.

Some eat while they are fighting with a spouse, fatigued, or still upset over some annoyance. A few can digest well only if they eat when alone; they get into trouble whenever they eat with others, and especially in a crowded restaurant. I have seen such a patient suddenly get a bad digestive upset from a long-distance telephone conversation with an abusive spouse or the receipt of a disturbing telegram.

A patient says milk, or eggs, or some other food always poisons him. An elimination diet consists of nothing but lamb and rice, butter and sugar and canned peas, to be eaten for two days is recommended. If it does not help in that time, it is not likely to do so later. If the distress comes only once in a couple of weeks, keep a record of foods eaten before each upset. If he goes three weeks without distress the chances are that his trouble was not due to food allergy.

When heartburn appears in a patient with ulcer, when he has hunger pain he has no heartburn and when he has heartburn he has no hunger pain.

In nine of 10 cases of diarrhea one is unable to find any sign of organic disease in the digestive tract or of parasites in the stools. Many admit to a tendency to diarrhea under excitement.

Persons with functional diarrhea seldom have to get up at night to empty the bowel. In almost every case of regional enteritis or chronic ulcerative colitis the sedimentation rate has been more than 50 mm. in an hour, whereas in cases of apparently functional diarrhea it has been less than 20 mm. When amebae have been found in the stools the diarrhea may all be due to a neurosis.

Many a man complaining of heartburn, nausea, indigestion, abdominal distress, night pain, or loss of weight swears off tobacco, and with this his symptoms disappear and he gains markedly in weight. Regurgitation which starts immediately or shortly after meals and especially not associated with nausea, Alvarez has never seen cured by any form of operation. Exhortations that the patient make an effort to hold down her food may help; improvement in home conditions or rest may work a cure.

This experienced and thoughtful doctor seldom ascribes a patient's trouble to gastritis. He is waiting for further knowledge.

The diagnosis of chronic appendicitis he dares make only when the patient, usually a young person, has had one or two attacks of abdominal pain which made the attending physician suspect acute appendicitis. If these were followed by indigestion and poor health the appendix may be removed with hope of effecting a cure.

He does not make the diagnosis of adhesions

from one year's end to another except in cases characterized by occasional attacks of partial intestinal obstruction.

Diverticulitis is a rare disease. Alvarez goes two or three years without seeing a single case. He says it is wrong to blame diverticula for symptoms unless the patient has had chills and fever with some intestinal obstruction, a tender mass in the left lower quadrant of the abdomen and a typical roentgenologic picture of spasm in the last 6 cm. of the descending colon where it forms the first part of the sigmoid flexure.

The attractive woman with expressive eyes and mobile features, quickness of thought and movement, hypersensitiveness to light and sounds and smells, should be suspected of having migraine.

Teach migraineous women to live with their handicap and to avoid fatigue, tension, excitement, worry and annoyance.

Many of the "dyspeptics" whom we physicians see each day are suffering primarily from constipation, and if only they would take a daily enema of warm physiologic salt solution they would be well.

In case of ache or distress in the abdominal wall due to a fibrosis, or neuritis, or arthritis about the spine, usually when asked, the patient will admit that he or she is subject to attacks of lumbago, wry neck, cricks, sacro-iliac disease, sciatica, or arthritic pain or stiffness in several joints of the body. By lifting up a fold of skin and subcutaneous tissue, pinching it lightly, the patient will be caused to flinch or to cry out with distress. This common disease is almost unknown to physicians today and, as a result, many futile abdominal operations are daily being performed throughout the land.

EVALUATION OF BENADRYL IN THE TREATMENT OF URTICARIA, SCLERODERMA ETC.

(P. A. O'Leary and E. M. Farber, in *Proc. Staff Meetings Mayo Clinic*, Aug. 7th)

Benadryl is not an effective antipruritic drug. It afforded relief to only six of 38 who suffered from itching from contact dermatitis, jaundice, toxic pruritis, psoriasis, dermatitis herpetiformis, so-called neurogenic pruritis and the like.

Nine patients who had acrosclerosis and four who had scleroderma received benadryl by mouth, from 200 to 800 mg. a day.

A chief complaint of the acrosclerotic patients was inability to make a fist. In the first two weeks of therapy seven of the nine were able, because of disappearance of edema, to bend their fingers and to make a fist.

There was decrease in cutaneous edema of two of the four patients who had scleroderma.

Sustained benefit was achieved for only two of the nine patients who had acrosclerosis. Of the two patients who obtained sustained benefit, one was a 65-year-old woman who complained primarily of stiffness and swelling of her hands. After benadryl therapy alone she remained without pain or swelling of extremities for five months. Then she discontinued therapy. In a short time the swelling, cyanosis and pain returned; with the resumption of benadryl she

again was relieved. At the date of this report she is still doing well. She has had a total of seven months of treatment.

The second patient with acrosclerosis who improved markedly was a 24-year-old waitress who complained of stiffness and swelling of her face, chest and hands. Small painful ulcers were present on the tips of her fingers. To the time of this report, she has received 500 mg. of benadryl a day for six months; the ulcers are healed, the patient is able to make a fist, softening of the skin in the affected areas has ensued, and she is now able to work.

Treatment of urticaria and allied dermatoses should begin with small doses of benadryl, 50 mg. t.i.d., increased gradually until the minimal maintenance dose has been determined. Patients may require 300 to 400 mg. a day for several weeks, but frequently may decrease gradually until smaller doses become equally effective.

Benadryl does not seem to exert cumulative action, for urticarial lesions promptly reappear when administration of the drug ceases. If relief is not obtained within the first few days, benadryl is unlikely subsequently to be of value. In eleven-months' experience no cutaneous sensitivity has been observed, nor evidence that benadryl is a habit-forming drug. It has a wide margin of safety and can be taken for many months in succession without deleterious results. It is just as effective in controlling urticaria in the fourth or fifth month of use as in the first.

Indiscriminate use should be discouraged because severe side reactions sometimes occur, such as loss of judgment, confusion, or sudden drowsiness.

IN A CASE OF ADENOCARCINOMA OF THE JEJUNUM IN A WOMAN, 53, THE CLINICAL AND ROENTGENOLOGICAL FINDINGS WERE THOSE OF AN INCOMPLETE OBSTRUCTION OF THE SMALL INTESTINES. THE ORAL ADMINISTRATION OF THE BARIUM SUSPENSION FOR THE EXAMINATION COMPLETED THE OTHERWISE INCOMPLETE OBSTRUCTION. The tumor was removed, and, although the probable duration of the condition was two years, no metastasis could be found. The postoperative course was uneventful. Re-examination 17 months after the operation did not reveal any sign of recurrence.—Braun, in *Am. Jl. Dig. Dis.*, July.

TREATMENT OF MEDICAL JAUNDICE is primarily dietary, using a high-carbohydrate (74%), high-vegetable-and-dairy-protein (20%) and low-fat (6%) diet. Medications which include bile salts, amino acids, vitamins and liver extracts are important adjunct therapy.—J. L. Diamond, Fargo, No. Dak., in *Minn. Med.*, July.

If the importance of the *intestinal secretion of mucus* is kept in mind, and if it is remembered that mucus is not a product of inflammation but that an excessive amount of it is the result of intestinal irritation, then surely the timeworn phrase "mucous colitis" will have no place in medical parlance.—Chaffin, in *Jl. A. M. A.*, Oct. 12th.

Seven instances of *localized peripheral neuritis* with motor and sensory disturbances subsequent to the intramuscular administration of *penicillin* are described. The onset of neuritis was between ten and twenty-one days after the institution of penicillin therapy. Complete recovery from the neuritis occurred within four months in 5 of the 7 patients.—Kolb & Gray, in *Jl. A. M. A.*, Oct. 12th.

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BOOKS

CONDUCTION ANESTHESIA: Clinical Studies of George P. Pitkin, M.D., F.A.C.S., F.I.C.A., Edited by JAMES L. SOUTHWORTH, M.D., and ROBERT A. HINGSON, M.D. 606 Illustrations prepared for the Clinical Studies Under the Direction of Dr. George P. Pitkin. *J. B. Lippincott Company*, East Washington Square, Philadelphia 5, 1946. \$18.00.

This book is based on a 25-year clinical study. It gives a clear picture of the usefulness of this method of producing anesthesia and its claim to superiority in perhaps the majority of all surgical procedures. The profusion and excellence of the illustrations supplement the text in such a way as to make an ideal presentation.

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detail methods for local, spinal, cordal, and refrigeration anesthesia. The problems of the surgeon and the anesthetist are discussed as a joint responsibility.

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MEDICAL RESEARCH: A Symposium edited by AUSTIN SMITH, M.D., Secretary, Council on Pharmacy and Chemistry; Director, Therapy and Research, American Medical Association. 47 Illustrations, including 10 subjects in color. *J. B. Lippincott Company*, East Washington Square, Philadelphia 5, 1946. \$8.00.

The book opens with a statement of the meaning of research, which is the repeated, exhaustive, unremitting search for new facts and new factual relations. Those who engage in research, it is finely said, are motivated partly by the lure of adventure into the unknown; partly by curiosity; partly because knowledge is power and it is hoped to put it to some practical use; and partly because the deeper knowledge of the universe and its harmonic relations gives intellectual and esthetic satisfactions. Surely, once this concept is realized by society at large, whatever lingering tendency to be-

little research now remains will disappear, and we will hear no more characterizations of researchers as impractical visionaries.

Each chapter considers the subject of medical research from a different viewpoint. Old methods and newer advances are all given adequate consideration. A fine chapter is devoted to photography as one of the newer components of research.

The book will greatly interest any person with an intelligent concern about those we love best, our noble selves.

MEDICAL USES OF SOAP: A Symposium by MORRIS FISHBEIN, M. D., et al. *J. B. Lippincott Co.*, Philadelphia. 1946.

The greater part of the first half of the book is devoted to technical procedures with which physicians can have no more than a casual concern. There is a paragraph on abnormal effects of soaps on the normal skin. The section on the effects of soap on abnormal skin, and that on such effects on the hair, have practical application. Improper use of soaps is discussed. A decalogue of fallacies is worthy of consideration. Skin detergents are compared with other soaps.

CHUCKLES

KNEW IT BY HEART

One lazy, summer afternoon, a judge was charging a jury, reciting off the legal flapdoodle with unwonted rapidity, when he was attracted by the lackadaisical manner of the old court reporter. He kept glancing at Henry, as he dangled over his work, and finally interrupted himself to ask, "Mr. Williker, are you getting my words down correctly?"

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from red to orange. Everybody but these two rushed across the street. The orange light, of course, quickly turned green, and as the Irishman started across, Pat observed to his partner. "Shure an' they don't give the Protestants much time t' git across, do they?"

When the colored preacher's knock on the door of the little shanty brought a woman attired in heavy mourning, the good man solicitously inquired, "Is yo' husband daid, sister?"

"Oh, no, suh, he ain't daid," was the reply.

"Then, why is you in mournin', sister?" the preacher asked.

"Well, suh," explained the woman, "it's like dis: Mah present husband has been naggin' and botherin' me so much that I'se went back into mournin' fo' mah fust husband."

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"You know," observed the hostess, "I was born on the twenty-second of April."

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"So does everyone else who knows I married you!" snapped his frau.

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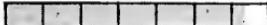
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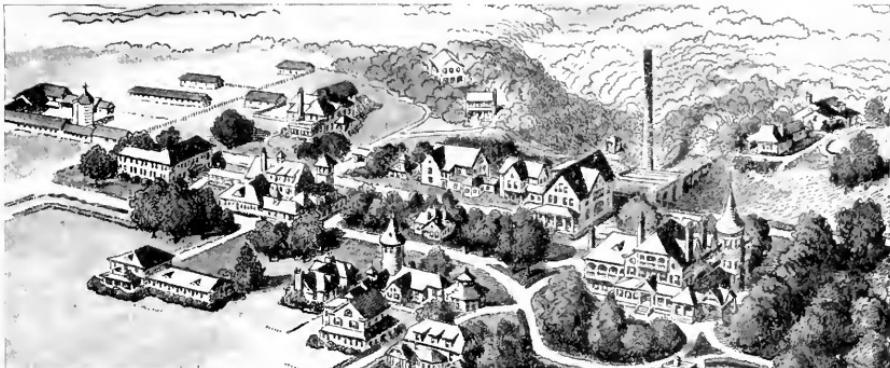
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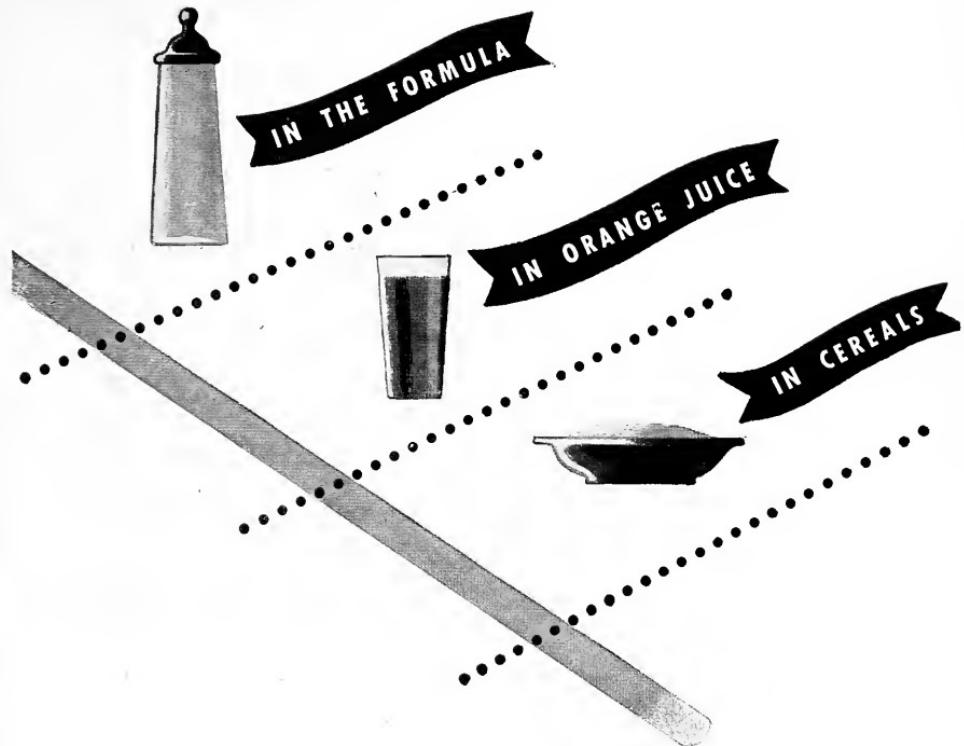
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JAMES M. NORTHINGTON, M.D., Editor

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No. 12

Why I Am Opposed To A Third Four-Year Medical School

W. S. RANKIN, M.D., Charlotte

A Member of the North Carolina Medical Care Commission

THE ISSUE IN SHARP FOCUS

IT IS WELL before beginning a discussion to define the issue. Especially is this true where the opposition, recognizing the inherent weakness of its position, undertakes deliberate distortion in charging, more by implication than by direct statement, that those who are opposed to one element in a sound, comprehensive, and altogether laudable state health program are opposed to the entire program. So it seems desirable to begin this discussion by defining the issue under consideration, by bringing it into a clear, sharp focus.

The National Committee for the Medical School Survey made four recommendations, to-wit:

- (1) Greatly expanded and improved general hospital facilities;
- (2) Establishing a prepayment plan for defraying the cost of hospital care;
- (3) Expanding and improving public health facilities;
- (4) A state constructed and operated four-year medical school to be located at Chapel Hill.

Now, the issue: The seven members of the National Committee were in complete and enthusiastic agreement on the first three recommendations. They were in sharp disagreement on the fourth recommendation, namely, the need of another medical school with its location at Chapel Hill, dividing five for the school and two against it.

National Committee, in complete and enthusiastic agreement on the first three major recommendations of the National Committee. They are in

The twenty members of the North Carolina Medical Care Commission are, along with the sharp disagreement on the fourth, namely, another four-year medical school to be located at Chapel Hill, the voting members of the Commission dividing ten for the school with its location at Chapel Hill, three for the school at Chapel Hill with reservations, and four against the medical school.

There is, therefore, no division within the National Committee or the State Commission on the first three recommendations of the National Committee. Every member of both groups is unreservedly and enthusiastically for (1) greatly enlarged and improved hospital facilities, (2) expanded and improved public health facilities, and (3) a State promoted and established prepayment plan for hospital care. The issue, then, and the *sole* issue, is on the fourth recommendation of the National Committee which proposes a third four-year medical school for North Carolina to be located at Chapel Hill.

On this issue, a third medical school to be located at Chapel Hill, the writer voted "no," and in so doing, he was careful to record from manuscript in the official minutes of the Commission the reasons for his minority vote. He opposed the medical school proposal for two reasons, a minor reason and a major reason; but first, the minor reason.

ANOTHER MEDICAL SCHOOL IS NOT NEEDED

There are 69 four-year medical schools in the United States. See *Jour. A. M. A.*, September 1st, 1945, pages 46 and 47.

There are 18 states with *no* four-year medical school.

There are 13 states with *one* four-year medical school.

There are 9 states with *two* four-year medical schools. North Carolina is one of the 9.

There are 4 states (Mass., Ohio, Tenn. and Texas) with *three* four-year medical schools. One of the schools in Tennessee is a Negro school.

There are 4 states (N. Y., Pa., Ill. and Cal.) with more than three four-year medical schools.

If North Carolina establishes a third four-year medical school, there will be only 4 states in the Union with more medical schools than our State, the great States of New York, Pennsylvania, Illinois and California. On either a population or wealth basis, we shall have more four-year medical schools than any state in the Union.

Moreover, if a third four-year medical school is established at Chapel Hill, the State will have another distinction: It will have a four-year medical school located in a town with the smallest population of any town where a medical school may be found on the North American continent, if not in the whole world. The Chairman of the National Committee for the Medical School Survey, Dr. W. T. Sanger, in making a similar survey in 1945 for Mississippi (one of the 18 states with no four-year medical school) said that Mississippi should *not* establish a four-year medical school, but that if that State should decide, contrary to his advice, to establish a medical school, it should not be located on the University campus at Oxford because the clinical material in and about Oxford was too limited to provide for the school. Now the population of Oxford, 1940 Census, is 3,500. In North Carolina, Dr. Sanger recommended a third four-year medical school and that it be located at Chapel Hill which has a population, 1940 Census, of 3,600.

The contention that a medical school should be located on the same campus with the university of which it is a part is contradicted in the location of the medical schools of 15 state universities and 7 additional university medical schools, including such medical schools as those of Cornell, Stanford, Illinois, Northwestern and other universities.

The Johns Hopkins Medical School is in East Baltimore and the Johns Hopkins University in North Baltimore, a travel distance of five or six miles; the Harvard Medical School is in one suburb of Boston, Brookline, and Harvard University in another suburb, Cambridge, a separation of eight to ten miles. Yet we all know that these great

institutions function as smoothly, as efficiently, as economically, as do the three sub-divisions of our State University, one at Chapel Hill, one at Raleigh, and the other at Greensboro.

THE FOUR ARGUMENTS ADVANCED FOR ANOTHER MEDICAL SCHOOL

Another four-year medical school in this State is not needed because not one of the four arguments that have been advanced for such a school can be sustained. Let us now consider these arguments one by one.

Number 1: A four-year medical school with a central hospital (at Chapel Hill) is needed to care for the indigent sick of North Carolina. When this argument was first advanced, a state-wide ambulance service to bring in the sick from all quarters of the state was suggested. However, this argument for centralizing the hospitalization of the indigent sick of the State was contradicted by its own advocates in their proposal that the general hospital facilities of the State provide 600 general hospital beds in the central hospital at Chapel Hill and 14,400 general hospital beds distributed throughout the towns and cities of North Carolina. As the 600 beds in the central hospital is exactly 4 per cent of the total of 15,000 general hospital beds proposed for the State as a whole, the admission in the figures themselves is that the care of the sick, indigent and non-indigent alike, is 95 per cent a local responsibility that cannot be centralized.

Moreover, these early proponents of a medical school with a hospital devoted largely to the care of the indigent overlooked the fact that a first class faculty for a medical school can neither be attracted nor held by university salaries that cannot be supplemented by income from the treatment of paying patients in the central hospital. Finally, neither the majority nor the minority reports of the National Committee gave this argument for a medical school—more adequate care for the State's sick—the respect of even a casual reference.

Number 2: Another medical school in North Carolina will result in a more even distribution of physicians between urban and rural people. Notice here that the *end* sought is *distribution*, not production of physicians. Production is only the means; distribution is the objective. To produce 100 to 100 more graduates of medicine a year and have them crowd into the large and medium urban centers of our State, into Asheville, Charlotte, Durham, Greensboro, Raleigh, Wilmington, Winston-Salem, Goldsboro, Wilson, Kinston, and other towns where there are hospitals and no need of additional doctors, is only to aggravate, not to ameliorate, maldistribution. But let the National Committee have its say. It speaks not as a majority and a minority group on this point, but in solid

agreement. I quote:

"Table 3 lists the states in order of increasing numbers of physicians per unit of population. North Carolina rates very low here, with one physician (before World War II) per 1,303 inhabitants, with only three states having fewer physicians. *However, this does not seem to be related to the absence of a four-year state medical school in North Carolina.* [Italics mine.] The half of the states with fewest physicians include 14 with no such school. The half with most physicians include 13 without a state four-year school."

Hear the Chairman of the National Committee, Dr. Sanger, as he advises the people of Mississippi, that have no four-year medical school, not to establish a medical school as a means for bringing about a better distribution of physicians in that State.

"Some seem to think that the four-year medical school will solve the problem of doctors for a rural state, which it cannot be expected to do; that alone has not solved it elsewhere. Every state with any large rural population still has this problem unsolved despite the presence of medical schools, in some of them even more than one school." [Italics mine.] (Miss. Report, pages 23-24.)

"... there are so many uses for public funds that the prudent state, like the prudent man, does not risk too much capital in enterprises which are already underway elsewhere and can be made available for any purpose in hand." (Miss. Report, page 27.)

The position of the American Medical Association as it is expressed by its unanimous adoption of the report of its Council on Medical Education is carried in the *Jour. A. M. A.* for June 1st, 1946, pages 432-438. I quote, page 436:

"2. Any overall increased present or postwar need for additional physicians occasioned by the war can be provided by existing approved schools. *There is no justification for establishing new medical schools for this purpose.* [Italics mine.] Furthermore, the normal annual number of graduates from existing schools is adequate for the peacetime needs of the country, granted distribution is equitable.

"3. The maldistribution of physicians as between the states or between urban centers and rural areas is a problem to be attacked primarily by other means than the production of more doctors in a given state: the rate of production and the distribution of doctors in this country are independent. [Italics mine.]

"4. Medical education is by far the most expensive form of professional training, requiring an initial outlay and subsequent annual budgets in the early years totaling millions of dollars and not tens or hundreds of thousands. A school whose

resources include annual budgets of less than \$350,000, independent of the cost of maintenance of the hospital and outpatient departments, is unlikely to conduct a satisfactory program."

It will be recalled that Dr. Victor Johnson, Secretary of the Council on Medical Education, in addition to signing a minority report with Graham Davis opposing the establishment of another medical school in this State, submitted an individual dissenting statement from the majority report, but, in doing so, was careful to point out that he was speaking as an individual, not officially as Secretary of the Council. It is significant, however, that the Council at its meeting in San Francisco took occasion to review his individual dissenting report and to adopt it unanimously as expressing the position of the Council.

The Council on Medical Education of the A. M. A. is composed of a distinguished group of our medical leaders who for many years have studied medical education and become experienced in directing the policies of the A. M. A. as this organization is concerned with the problems of medical education. The membership of the Council includes the names of two ex-Presidents of the A. M. A., Dr. Ray Lyman Wilbur and Dr. Charles Gordon Heyd; Dr. John H. Musser, professor of Medicine at Tulane University; Dr. Reginald Fitz, professor of Medicine, Boston University; Dr. Harvey B. Stone, associate professor of Surgery, Johns Hopkins University; Dr. Russell L. Haden, head of the department of Medicine of the Cleveland (Ohio) Clinic; Dr. H. G. Weiskotten, Dean of the Medical Department of Syracuse University; and Dr. Victor Johnson, Secretary of the Council.

Number 3: Our State needs a State supported medical school to provide North Carolina boys with more adequate opportunity for a medical education. Here again, the National Committee speaks in unanimous dissent in rejecting this argument. The whole Committee in support of their opinion submits the following factual data: For the years 1935, 1937, 1940, there were for the country as a whole 1.90 applications for admission to medical schools for every admission; for North Carolina, for the same years, there were 1.93 applications for admission for every admission. For the country as a whole, for the period 1938-1940, there were 45.7 admissions per 1,000,000 population; for North Carolina, for the same period, there were 40.6 admissions per 1,000,000 population. There were, therefore, 5.1 less admissions per 1,000,000 population for our State than for the country as a whole. Apply that figure, 5.1, to our State population of 3,600,000 and we find that there were 18.3 fewer medical students admitted to medical schools from this State than from the country as a

whole—hardly enough to justify the cost in construction and operation of another medical school.

So now, where do we find ourselves? The National Committee having completely ignored the argument that a medical school is needed for the care of the indigent sick, and having unanimously, factually and effectively disposed of the two arguments that another medical school is needed (a) to bring about a better distribution of physicians, and (b) to provide North Carolina boys with a better opportunity to study medicine—what's left? For old stagers like Graham Davis, President-elect of the American Hospital Association, and Victor Johnson, Secretary of the Council on Medical Education of the A. M. A., there is nothing left. But not so for the nimble witted and resourceful majority of the National Committee. They propose a third medical college to bring about *an integration* of the hospital facilities of the State, and so we come to the last argument for the medical school.

Number 4: A medical school is needed to integrate hospital facilities. Never before was this argument used for justifying the expensive construction and operation of a four-year medical school. It is original and unique. None of the 69 medical schools in the United States, none of the 9 in Canada, was ever constructed or operated for the purpose of integrating hospital facilities. The argument advanced by the majority of the Committee—*integration of hospital facilities*—is at best an argument of expediency, not a statement of a general principle. It is not susceptible of general application. If so, it would be advocated by the majority of the Committee to integrate the hospitals of the 18 states that have no four-year medical school but that do have many hospitals. Moreover, in its application to states with multiple medical schools, 2, 3 or more, it could be used only by dividing such states into integration districts; otherwise, the integrating of the 2, 3 or more medical schools would overlap, and confusion and misunderstanding would result. In place of integration, there would be disintegration.

Integration is a function of an administrative agency of government, not of an educational institution. The administrative agency could and should encourage and make full use of educational institutions to educate and train personnel for the services of assisted hospitals, such as hospital administrators, dietitians, technicians, medical social workers, special types of nurses, anesthetists, etc. It should also encourage and assist such institutions in whatever programs of postgraduate training for physicians that they may undertake.

The North Carolina Medical Care Commission, with the specially trained personnel that it will have at its disposal, and with vast sums of money

from both the Federal and the State Governments that it will use in assisting hospitals with their financial problems, is fully, in fact exceptionally, qualified to integrate the hospital services of North Carolina. Not to recognize this fact, and to expend large sums of money to build and operate another four-year medical school in North Carolina for the purpose of integrating the hospital facilities of this State is (1) to restrict the Commission in the discharge of its larger and legitimate responsibilities, and (2) to waste the State's money in creating an integrating agency for which there is no need.

THE MAJOR REASON FOR OPPOSING ANOTHER FOUR-YEAR MEDICAL SCHOOL

Another four-year medical school in North Carolina will be constructed and operated with funds that are needed by our general hospitals and by our mental hospitals. The school will be built at the expense of the general and mental hospitals of the State. The supreme interest in this issue should be determined by the needs of our general hospitals. There is complete agreement within the National Committee and among all authorities that the local general hospital occupies the place of primacy in any program designed to bring about a proper distribution of physicians and nurses—in short, of medical services. No one states this fact more strongly than does Dr. W. T. Sanger in his Mississippi Report, page 4. This is his *first* recommendation in that Report.

"(1) That Mississippi *first* carefully consider the development of a hospital system for the State, recognizing its *primacy* in securing a reasonable addition of physicians, regardless of where educated, and the delivery of better medical care for its people, not overlooking the fact that the masses are not interested in medical education *per se*, but in medical care." [Italics mine.]

The reason for apprehension for the interest of the general hospital is clearly revealed in the budgetary apportionment of estimated available public funds for the five-year period—July 1st, 1946, through June 30th, 1951—as these apportionments are set up in the (page 377) tabulation which was officially adopted (including the error), by the North Carolina Medical Care Commission at its meeting in Raleigh on October 21st, 1946.

Attention needs to be sharply drawn to two estimates in the last column of the table, to-wit, the total of \$20,400,000 recommended for general hospitals and the total of \$3,750,000 recommended for medical hospitals. In a statement which the writer prepared, at the request of the Chairman of the Commission, indicating the possible extent of the general hospital needs of the State for expansion over the next five years, which statement was submitted to the Chairman in considerable detail in an official letter dated October 19th, 1946, that

	<i>Federal</i>	<i>State</i>	<i>County and Local</i>	<i>Total</i>
General Hospital Beds—4,200 at \$7,000 ea.....	\$ 9,800,000	\$ 9,800,000	\$ 9,800,000	\$29,400,000
33 Health Centers—100 G. H. beds (est'd).....	750,000	750,000	750,000	2,250,000
Teaching Hospitals—100 G. H. Beds and Equipt.....	1,500,000	3,590,000	5,090,000
Mental Hospitals*—1500 Beds	1,250,000	2,500,000	3,750,000
TB. Hospitals—700 Beds	1,500,000	3,000,000	4,500,000
Unallocated Hill-Burton-Funds	2,700,000	2,700,000

\$17,500,000 \$19,640,000 \$10,550,000 \$47,940,000
State will acquire Camp Butler Hospital—3,200 beds.

*Mental Hospital bed estimate is based on understanding that

is before the above budgetary allotment had been submitted to and approved by the Commission, it was estimated that, with the State participating with the Federal Government in assisting in the construction of local hospital facilities, not to the extent of one-third but one-sixth, our State would construct a total of 6,578 general hospital beds in the next five years, not 4,200 as suggested by the Commission. It is true that the 6,578 beds would replace 1,530 abandoned beds in old hospitals or through the modernization of existing plants, leaving a net gain of 5,048 general hospital beds. Now, if we use \$7,000 as our estimated cost per additional bed, the total additions to the general hospitals over the five-year period reaches a total cost of \$46,046,000. However, in the estimate of October 19th submitted to the Chairman of the Commission at his request, estimates considered county by county and estimates that took into consideration the present bed capacity and present percentage of bed occupancy of each hospital, it was estimated that for some additions a cost of less than \$7,000 per bed, of \$6,000 per bed, and in some cases as low as \$5,000 per bed was possible. With these reduced per bed costs for some types of construction, the final estimate for the 6,578 new beds adds up to \$42,520,000. That is a very different figure from the Commission's allotment of \$29,400,000 for the general hospitals; moreover, it provides a net increase of 5,048 beds, exclusive of general hospital beds in health centers and in a teaching hospital, not the Commission's estimate of 4,200 general hospital beds, from which would have to be subtracted not less than 800 abandoned and displaced beds, leaving a net gain of not over 3,400 beds.

There is another figure in the Commission's apportionment of available funds which is deserving of special attention. The Commission sets aside for mental hospitals \$3,750,000 for the five-year period. Dr. David A. Young, General Superintendent of our mental hospitals and acting presumably for the Board of Control for these hospitals, has very kindly, at my request, supplied me under date of October 15th, before the Commission adopted the budget indicated in the preceding table, with a statement of the needs of these institutions for new construction. The statement outlines in item-

ized detail financial needs that add up to approximately \$15,000,000 for the biennium 1947-1949, and, for the five-year period, needed improvements that are estimated at something like \$20,000,000.

We come now to the crux of the matter: The general hospitals need a total of not less than \$40,000,000 over the next five years for new construction, and, judging from Dr. Young's detailed figures, the mental hospitals need over the next five-year period for new construction not less than \$10,000,000, which is only one-half of the preliminary estimates of the Board of Control of these institutions, not \$3,750,000 as suggested by the North Carolina Medical Care Commission. The reason that the Commission is limiting their estimate of funds needed for general hospitals to \$29,400,000, and their estimate of funds needed for mental hospitals to \$3,750,000 is that they may have funds with which to build a medical school at Chapel Hill. In brief, the general and mental hospitals are taxed with the cost of the medical school. The medical school supplies no essential need for this State. Enlarged and improved general and mental hospital facilities do supply a great and an essential need for North Carolina.

TRUE INFECTIVE ABACTERIAL PYURIA (E. J. McGinn, Marshfield, in *Wis. Med. J.*, Sept.)

The disease is resistant to treatment. Occasionally the symptoms are relieved by bladder lavage, but eventually, always reappear and can only be completely cured by intravenous injection of an arsenic preparation such as neosalphenamine or mapharsen. This therapy is entirely empirical, but the results are truly remarkable. Only small amounts of the drug need be given and improvement is generally noted after the first injection and always after the second. Three or four treatments are recommended. One should bear in mind the usual side reaction following the use of arsenic preparations.

Many patients have been submitted to an intensive anti-tuberculosis regimen which entailed an unnecessary economic burden; others have been subjected to unnecessary renal surgery because this simple disease was confused with urinary tuberculosis. It is recommended in cases of sterile pyuria that a therapeutic test with mapharsen be carried out even before the cultural results for tuberculosis are reported. By this means one can possibly effect a dramatic and sudden cure of urinary difficulties much to the patient's gratification.

CANCER OF THE ESOPHAGUS—The surgical treatment is still in its infancy and it is difficult to predict whether it will ever give rise to more than 10% of five-years cures in operable cases.—Cummings.

Treatment of First and Second Degree Burns

C. A. ANDERSON, M. D., Burlington, North Carolina

THE great number of treatments recommended for burns is proof positive that we have no satisfactory treatment for this kind of injury. First and second degree burns are almost always very painful. For twenty years I have used one-half per cent lysol solution (one teaspoonful lysol to one quart of water) in the treatment of these painful burns. The cresols in this solution are antiseptic and anodyne, and the active alkalis complete the anodyne and antiblistering effect. If the lysol solution is applied promptly it relieves the pain of a superficial burn almost instantly and controls blistering to a great extent. After the pain is relieved the solution can be diluted with an equal part of water and used for one-quarter to one hour to further control blistering.

If an extensive surface is burned or if much skin is broken, the possibility of poisoning from absorption of the cresol must be taken into consideration. Compound solution of cresol U. S. P. is 50 per cent cresol, lysol is in the neighborhood of the same strength.

The cresols are phenols, closely related to carbolic acid, or phenol proper. The most varying estimates are given of the germicidal activity of phenol. Efficacy is favored by the addition of substances which reduce the surface resistance of the microorganisms. A mixture containing 2 per cent of phenol with 1 per cent of hydrochloric acid or 2 per cent of tartaric acid kills anthrax spores in 24 hours; although none of these substances alone, in the same strength, does so in 30 days. A 1 per cent solution of phenol which has no effect on pus cocci in five minutes becomes effective in one minute upon the addition of 12 to 24 per cent of sodium chloride. On the other hand, the antiseptic power of phenol is almost abolished by solution in oil or strong alcohol, as well as by the presence of camphor and certain other substances with which it enters into a physical combination which is not readily broken up. The presence of albumin also interferes with its action. Figures as to its activity are therefore of little value unless exact details of the technic are given.

Phenol is quickly taken up from the skin, from wounds, from all mucous membranes and from the subcutaneous cellular tissue. Systemic poisoning therefore may follow its local application, especially to wounds or cavities. The liability to such accident is, however, diminished by the use of highly concentrated solutions, the surface coagulation hindering absorption.

Phenol applied to the skin, in solutions of 1 to 4

per cent, cause tingling, numbness and local anesthesia which may be transient or persist for hours, according to individual susceptibility. If the application is prolonged the epidermis is destroyed, and later desquamates. Five per cent solutions are irritant, and stronger solutions caustic, causing first a temporary burning sensation, which is quickly followed by anesthesia. This may extend through all the thicknesses of the skin and for half an inch or more around the area of the application. The epidermis becomes white; later, if the contact has been but momentary, red. Alcohol prevents this topical action or, applied soon afterward, restores normal color to the whitened skin. A dry gangrene, coming on painlessly and insidiously may occur, especially upon the fingers, whenever dressings containing even so little as 2 per cent of phenol are kept in position for a day or two without removal.

Prolonged application to the skin of dressings impregnated with even very dilute solutions may give rise to erythema, vesication or more rarely to a widespread scarlatiniform eruption, which is occasionally very painful and accompanied by fever. Oily solutions of phenol are hardly more than one-tenth as irritating as aqueous solutions. Glycerin solutions up to 10 per cent do not irritate. Ointments made with petrolatum rubbed with one-half to twice as much camphor, liquefy, and the resulting liquid is not irritant even to mucous membranes.

Carbolic acid poisoning in man is frequent. Phenol, being easily obtained and known to act quickly, is frequently taken with suicidal intent. Its solutions have also been swallowed by mistake for whisky or medicinal preparations.

Poisoning from inhalation occurs not only when the drug is administered in this way, but also when sprays have been used to charge the air of an apartment for disinfectant purposes, or in connection with surgical operations, as in the early practice of Listerism.

Untoward accidents and even death have resulted from injections into hemorrhoids or into the cellular tissue about the rectum. Applications of the undiluted phenol producing coagulation of the superficial cells block the absorbent channels and are not so likely to be followed by systemic poisoning. As conversion to less toxic compounds takes place largely in the liver, much smaller doses are toxic when absorbed from any other part than from the alimentary tract.

The chemical antidote to phenol and its congen-

ers is the sulphuric ion (SO_4^-), with the salts of which it forms comparatively innocuous compounds. Combination, however, does not take place in the alimentary tract, but in the blood. A soluble and absorbable sulphate must therefore be administered, and if necessary, by hypodermic or intravenous injection, for which purpose sodium sulphate is to be performed.

Animal experiments seem to show that when injected and not taken up from the stomach, sodium sulphite alone is effective, the sulphite being without action on phenol after absorption. Sulphites are, however, somewhat toxic. 3 Gm. of phenol requires 4 Gm. sodium sulphite for chemical neutralization. Sodium sulphite, diluted sulphuric acid, and magnesium sulphate also have been used successfully by mouth in rather large doses.

For local neutralization of the poison limewater is given freely; saccharate of lime is still better, if at hand. This substance, however, requires three days for its preparation and is not always to be obtained in emergencies. Alcohol dissolves phenol and washes it away from the tissues. It is a local but not a constitutional antidote. Alcohol given by mouth with barely fatal doses of phenol, however, hastens death (Macht).

Emetics are useless on account of the anesthesia of the stomach and would be dangerous even were this not the case. The stomach should carefully washed out, if possible, using a syphon tube and an alkaline solution.

Phenol enjoys the distinction of having been the agent with which Lister inaugurated the era of anti-septic surgery, and those of the now rapidly disappearing generation who witnessed the beginnings of this revolution in surgical technique well remember the pungent odor of the carbolic spray and the tingling of hands and fingers so annoying to the operator and his assistants. They remember the fact also that the surgical house-staff in a busy hospital enjoyed almost complete immunity from head colds during their terms of service.

A boil may sometimes be aborted by the injection into its center of one drop of liquefied phenol; or, if it is pointed, a sharpened match-stick dipped into pure phenol thrust into the softened spot, produces highly satisfactory results.

If large amounts of phenol are applied to any tissue it is neutralized; if the application is followed by washing with alcohol, the local action is caused to cease. For infections of the skin a 1 to 25 per cent solution of phenol derivatives is in every case susceptible. For laryngeal, bronchial, or hemorrhoidal 20 per cent phenol in water should be employed, as this causes a local necrosis, hindering absorption.¹

A dilution of cresol in natural proportions, in 1% solution in water, kills *Staphylococcus pyo-*

genes aureus in one-half minute; 0.5% kills in 12 minutes; 0.25% in several hours, while 0.1% does not hinder growth, although 0.13% prevents the development of *bacillus typhi*. Lysol, 0.5%, kills *Bacillus typhi* in 15 minutes, and 0.35% destroys *Bacillus cholera* in seven minutes. Strong solutions of cresol (5% and more), applied to the skin, produce a burning sensation followed by redness, and if the application is continued, destruction and sloughing. Solution of 1 to 2% have no effect on squamous epithelium.¹

The U. S. Dispensatory, twenty-third edition, gives the dose of cresol as one to three minims. A quart of the prescribed solution contains thirty-five to forty minims of cresol, so the absorption of one-tenth of this would be more than the maximum dose. The water is not absorbed but the cresols are.

In extensive burns, and especially if the skin is broken, either do not use the treatment, or apply the solution for a few minutes to relieve the pain and wash off well with mild soap and water. Apply solvent oils—cottonseed oil, olive oil, melted lard or butter; after half hour wipe off and reapply the oil as a first dressing for a few hours. These solvent oils tend not only to prevent penetration, but also to extract the poisoning, destructive agent from the tissues.²

Further treatment—solution of merthiolate, dress with mineral oil or cold cream.

1. Solis-Cohen, *Pharmacotherapeutics*.

2. Bastedo, *Materia Medica, Pharmacology & Therapeutics*.

VACCINATION OF MILITARY PERSONNEL AGAINST INFLUENZA

(Note in *Jl. A. M.*, Nov. 23rd)

Influenza vaccination will consist of a single dose of 1 c.c. of the vaccine, administered subcutaneously. All persons to be vaccinated should be asked if they are able to eat eggs. The vaccine should be withheld from those who answer in the negative unless further investigation rules out egg sensitivity.

The value of influenza vaccine for the prevention of influenza A was well demonstrated in the series of controlled studies at a number of universities in 1943 and 1944 and reported in the *American Journal of Hygiene* in July, 1945. Value for the prevention of influenza B has also been demonstrated.

WHAT IS EARLY TUBERCULOSIS?

(Editorial in *Pub. Health Reports*, Sept. 6th)

No person should be labeled with the diagnosis of pulmonary tuberculosis on the basis of incomplete evidence. Suspicious film findings must be corroborated by a positive tuberculin test and by positive bacillary findings. Let treatment be delayed and judiciously deliberated until all the evidence for and against the evidence is evaluated. If such a procedure is rigorously followed, chest physicians will gain considerably in accuracy and skill of diagnosis, and sound hospital resources will be conserved. Most important of all, the person suspected of having tuberculosis will be assured of the rough and scientific diagnosis and treatment, and a safe basis based on positive and complete evidence will give a final verdict that protects the individual and the public health.

DEPARTMENTS

GENERAL PRACTICE

JAMES L. HAMNER, M.D., *Editor*, Mannboro, Va.

THE EARLY DIAGNOSIS OF PULMONARY TUBERCULOSIS

In an excellent discussion of this subject Bloch¹ states that cough, expectoration, hemoptysis and loss of weight in pulmonary tuberculosis are not danger signals of a threat, but signs of an already accomplished calamity. Rales appear when caseation has already begun. A negative physical examination is insufficient unless corroborated by roentgen ray.

Tuberculosis usually begins in the subapical area, but is likely to spread to the apex. Differentiation between clinically important lesions and the small innocuous residuals from healed disease often requires prolonged observation. Sharply circumscribed, moderately dense shadows are caseous foci in the process of encapsulation. In time the lesion will communicate with, and drain into, the bronchial system, and the phase of early tuberculosis has passed. A progressive calcification will cease to harbor living bacilli only if the caseous focus is very small, but the smallest residuals may remain capable of reactivation.

Discovery of infraclavicular infiltration was made among sanatorium personnel, who are more than the average exposed to infection. In most of them the lesion was superimposed on a healed childhood infection which had rendered protection through acquired immunity. This shows that childhood lesions offer protection against incidental exposures only, but are inadequate against mass attacks over prolonged periods. Most cases of exogenous superinfection occurred in young adults in intimate contact with domestic tuberculosis.

It is not true that the tuberculous infection in childhood determines the fate of the individual. Much more clinically significant cases are found in adults than in children beyond adolescence, because the child is more prone to tuberculous infection but not to destructive forms of chronic tuberculosis. However, the large number of tuberculous lesions is not alarming because the infectious type, if discovered before necrosis sets in, tends to heal spontaneously. Persons with good immune resistance should avoid exposure to massive inoculation over a considerable period. The discovery of a fresh exudative lesion does not imply an inevitably fatal termination, but it necessitates the removal of the dispenser of bacilli from all contacts he might harm.

Since 85 per cent of all tuberculous infections are airborne, the cavity in the lung of the adult is the main source, even though it be small. Our institutions house a predominance of cases with advanced tuberculosis. Patients with early disease are thus deprived of an opportunity for treatment until they are in an advanced stage, and thus the prerequisites of effective control are frustrated. The condition outlined in this article presents an urgent problem which requires speedy solution, with the individual cooperation of every family physician.

1. *General Practice Clinics, July, 1946.*

PHYSICAL THERAPY IN RHEUMATOID ARTHRITIS

APPLICATION of hot fomentations to acutely or subacute inflamed joints has been the most generally prescribed treatment for rheumatoid arthritis. Conroe² does not think heat should be applied if the joints are hot, swollen and tender; diathermy or hot baths should not be employed. In the subacute or chronic stage heat should be applied several times a day and should be followed by muscle massage between the joints.

In the bed, muscle-setting exercises may be begun almost at once and should include deep breathing exercises. In subacute and chronic stages, heat, massage and graded exercises should be used each day. Active exercises are not begun until the joint is without pain while at rest. They are to be done slowly. Massage is very useful in preventing muscular atrophy, but its contraindications must be observed.

Subacute or chronic stages may require hot baths with gradually rising temperatures. Other measures include hot paraffin in applications, baking, heat lamps, electric cabinet baths and general heliotherapy. Diathermy is the most effective method for heating deep tissues and treating the spine and large joints.

MENIERE'S SYNDROME

LINDSAY³ describes a successful treatment of Meniere's syndrome by sodium chloride restriction, an even distribution of fluids and foods throughout the waking hours, and administration of two teaspoonsfuls of potassium chloride in 25 per cent solution twice daily before meals. This treatment promotes elimination and has a slightly laxative effect. He has not been successful in preventing attacks by histamine or nicotinic acid, nor by inflation of the eustachian tubes. Atropine, pilocarpine and epinephrine have been recommended to relieve acute symptoms. Among the surgical measures recommended are intracranial section of the vestibular portion of the eighth nerve, destruction of the labyrinth by alcohol injection or intralabyrinthine surgery, opening of the saccus endolymphaticus and insertion of a coagulation point through the ampulla of the horizontal canal to provide a mild coagulating current. Surgery is in-

dicated only in cases which fail to respond to medical therapy.

2 & 3. *General Practice Clinics*, July, 1946.

PUBLIC HEALTH

N. THOMAS ENNETT, M.D., *Editor*, Greenville, N. C.

PREVENTION AND CURE OF SOME DISEASES PRONE TO CONSTITUTE PROBLEMS IN SCHOOLS

THE COMMON COLD is a problem in direct proportion to its commonness, and it is commonest among school children. Two English physicians¹ report instructive results of an investigation of this condition in their country.

One hundred school children suffering from frequent colds were investigated by clinical, x-ray and laboratory examinations, and note was taken of environment and development. Those suffering from asthma and hayfever were excluded. The children usually began to suffer when they started attendance at school, complained of blockage of the nasal passages, a mucous discharge which after a few became mucopurulent. Often there was also a mild upper respiratory infection, with slight cough but little sputum. The general disturbances in an adult suffering from coryza were absent. The cold lasted two weeks.

The child with frequent colds is of normal development, build, intelligence, and does not suffer from any other organic disease. The onset of the attacks at the beginning of school suggests that contact with infection is an important etiological factor. No definite relation was found between the colds and developmental abnormalities, upbringing, previous illnesses, or contact with tuberculous infection. No conclusion can be drawn from the lack of improvement after tonsillectomy. No allergic etiological factor could be established. Investigation of the blood, the Mantoux test, and special investigations with regard to glandular enlargement did not throw any light on this condition.

These frequent colds are due to inflammatory reactions of the mucous membrane lining the nasal passages and air sinuses, and give rise to few general disturbances in children. A filterable airborne virus seems to be responsible, aided by other organisms such as the pneumococcus, *Str. viridans* and *hemolyticus*, *staphylococcus*, *micrococcus catarrhalis* or *hemophilus influenzae*, which set up secondary infection. Repeated colds may cause nasal obstruction, and there may be arrest of nasal development and failure of muscular control over nasal respiration. These factors predispose the child to further infection.

¹ D. H. Erwin and E. Frankel, Wanstead, England, in *British Med. J.*, 2:506, 1945.

AN EPIDEMIC OF RINGWORM OF THE SCALP in 1944-1945 was controlled in one year without barring infected children from school or other public places and with treatment of the disease only by topical applications.²

Of the 8,657 children examined, 565 (479 boys and 86 girls) were found to be infected. In all but eight of these children, the infections were found to be caused by *Microsporon audouini*.

An equal number of boys and girls were examined, yet there were six times as many boys infected as there were girls. Only in barber shops was there more exposure for the boys than for the girls. Nearly all the boys attended the barber shops, while few girls went to barber shops or beauty parlors. Sixty-five per cent of the infected boys were infected only in the "clipper area." For these reasons and others there is a strong probability that the principal source of spread of infection was the barber's implements, especially the electric clippers. Electric clippers can be sterilized by immersing them in petroleum oil kept at 100° C., and working the clippers for 10 seconds while in the oil.

The two most efficacious remedies tried during the epidemic were: 1) salicylanilide 5% in carbowax 1500; and, 2) copper undecylenate saturated solution in Carbowax 1500.

Two New York dermatologists³ report quite a different experience in the treatment of this condition.

Microsporon audouini infection was present in 96.9% of their cases reported, and the following conclusions refer to this type of infection:

Of the numerous fungicides employed in small groups of cases, none appeared of much value. Of three whose results were more thoroughly compared, none was of practical value in the treatment.

The cures obtained seemed to depend on the thoroughness with which manual epilation was carried out, rather than on the fungicides employed. However, even the most careful manual epilation failed to cure the infection in many cases.

The fungicides apparently served in most instances to prevent spread of the infection to new areas of the scalp. Iodine or mercury seem as effective as any of the newer fungicides which were tried.

ACNE VULGARIS is the bane of the existence of many adolescents. New Yorkers⁴ report on this:

The differentiating feature of this product (intraderm sulphur) is its capacity to penetrate unbroken skin. This property is attributed to the newly developed vehicle. The composition Intra-

² Louis Schwartz *et al.*, in *Jl. A. M. A.*, Sept. 14th,

³ J. L. Miller & G. F. Beattie, New York, in *Jl. A. M. A.*,

Sept. 14th.

⁴ G. M. MacKee *et al.*, New York, in *Investigative Derm.*,

6:309, 1946.

derm Sulphur is: sulphur 7.5, sodium mixed alkyl benzene sulfonate 110, antipyrine 54; triethanolamine 100; propylene glycol 500; and water 168.5 —to a total of 1,000 parts by weight.

Depending upon the degree of reaction, this remedy is applied one to three times daily, after the first few weeks during which it is applied three times weekly. It is massaged into the skin for one to two minutes after application to the skin. Applications at night are made after washing with soap and water, and the remedy is permitted to remain on until morning. Morning applications, when made, follow the preparatory washing and remain on for 15 minutes.

In the cases in this series, none of the conventional internal remedies for acne was used. A well-balanced diet was advised, and constipation, anemia, and other systemic disorders were regulated whenever possible.

Intraderm sulphur was employed in the treatment of 14 cases of acne comedo. After 28 weeks of treatment one case was well and 13 cases were improved.

The remedy was used in 49 cases of acne papulosa and 23 cases were cured in an average of 13.3 weeks. Two cases showed no change and 24 cases were improved.

Twenty-three cases of acne indurata were treated and seven of these were made well in an average of 15.5 weeks. Fifteen other cases were improved and one case showed no change.

Of the total of 49 cases of all types of acne which used the remedy for 15 or more weeks, 44 were cured and 5 were greatly improved. None of these cases was made worse or remained unimproved. Two cases suffered recurrences after cure. One patient of the entire series of 150 patients developed dermatitis venenata.

Patients with a personal or family history of atopy (22 in this series) used the preparation with no untoward results.

THERAPEUTICS

J. F. NASH, M.D., *Editor*, St. Pauls, N. C.

TREATMENT AND RESULTS IN ANTERIOR POLIOMYELITIS

THERE is no therapy known, drug or otherwise, that destroys the virus or controls its spread within the body. One cannot prevent the development of, or lessen the severity of, paralysis in a patient by any means known at present. If the motor cell in the anterior horn of the gray matter of the spinal cord is completely destroyed, the resulting paralysis will be permanent, but usually only a few motor cells are completely destroyed. Motor cells are involved to varying degrees, short of complete de-

solution and so recover or return to function, proportionately.

Thus our treatment program's aim is to keep the patient generally, and the part locally, in best condition, while awaiting return of function of the motor cells which have been only partially involved. Then, depending on how much function does return, we either strengthen the involved muscles; or still more important, teach the patient to use efficiently what he has left, as coördination and balance are of far greater importance than strength alone.

Such is Gamble's¹ fine approach to discussion of the treatment of infantile paralysis. He goes on to particularize:

It is agreed that during epidemics all non-specific febrile illnesses be regarded with suspicion and placed under medical supervision. This does not imply hospitalization. In such cases, many of which will eventually have a diagnosis of abortive poliomyelitis, there is the chance of some degree of paraparesis. The patient is to be protected by bed rest from exhaustion and possible trauma during this period for whatever effects, if any, it may have on the future developments in the individual case.

The acute stage follows the prodromal upper respiratory or gastrointestinal symptoms. After a presumptive diagnosis has been made treatment aims to relieve pain and prevent deformity. This consists in good medical and nursing care, in the acute stage of isolation with isolation-nursing technic.

Absolute bed rest is sought in a natural rest position, either prone or supine, with arms at the sides, a board under the mattress, a board at the head, and the feet against the board at right angles.

Moist heat in the form of hot (under 103°) packs is used to relieve pain and muscle contraction when present. At intervals of 15 minutes to two hours, average of 1 to 8 complete packs from 8:00 a. m. to 8:00 p. m.; in severe cases around the clock. In the majority the patient should be allowed to rest during the night.

Sand bags, pillows, blanket rolls, and various types of splints are used as indicated. For certain patients with residual tightness, hot packs may be continued for months.

With the beginning of hot packs, passive and active assistive motions of all joints of the body, through as full an arc of movement as tolerated, are carried out to prevent as much as possible stiffness of the joints and tightness or contractures of the muscles.

In the bulbar type of respiratory involvement, difficulty in inspiration is the result of tenacious mucus in the throat which obstructs the passage of air. Treatment is restricting the fluid intake, raising the foot of the bed and turning the patient's face to the side so that the mucus will drain, and

¹ L. S. G. Gamble, Columbus, in *Ohio Medical J.*, Aug.

aspirating by means of a suction machine. A respirator cannot be used in these cases, as the negative pressure produced will aspirate the mucus into the patient's lungs. The first 24 to 48 hours is the critical period in a case of the bulbar type. If the patient survives this period, his chances are good, but he must be carefully guarded from respiratory infections. Quite often patients with bulbar poliomyelitis have little other involvement although in a few there may be varying degrees of peripheral weakness or paralysis. Little except the necessary measures to combat the mucus is attempted during the initial stage. After this period, the patient is treated in general similar to any other patient.

In the spinal or intercostal type of respiratory paralysis the respirator is of great value. Varying degrees of peripheral involvement require packs and other treatments just as in the case without respiratory involvement.

Patients should be removed from respirators as soon as their condition permits, and for gradually increasing periods of time, to guard against a fixation neurosis with regard to the respirator.

The second stage begins when the acute symptoms have subsided and ends when spontaneous improvement is no longer observable, and lasts from a few months to two years.

Patients without residuals must be ambulated gradually with periodic checks to prevent exhaustion, and to determine if any borderline muscles weakness will manifest itself with increased activity. The stage is primarily one of good physical therapy. Occasionally deformities are progressive no matter what is tried.

Rest, passive, assistive and active exercise both in and out of water, muscle reeducation, and the avoidance of muscle substitutes are our resources. Braces, corsets, crutches, etc., may or may not be indicated. Reeducation of muscles requires patience and perseverance on part of the patient, the family, and all persons having to do with the treatment program. Even though muscles appear normal they do not have the normal reserve, and should not be exercised to the point of fatigue.

In treating the chronic or residual cases apparatus must be checked and replaced at intervals; in the growing period at frequent intervals. The aim in walking is to attain as smooth a gait as possible, within a minimum of effort and a maximum of appearance. Exhaustion, other things being equal, determines whether a patient is to have crutches, cane, wheelchair, braces or be confined to bed.

Requisites are an intelligent patient with a will to improve, a cooperative family, and means of social and economic rehabilitation so that a patient has something to look forward to.

OBSTETRICS

HENRY J. LANGSTON, M.D., *Editor*, Danville, Va.

PRACTICAL SUGGESTIONS FOR THE CARE OF OBSTETRICAL PATIENTS

A WELL-CONSIDERED article on this important subject is that by Rivers.¹ In the very beginning he aligns himself on the side opposite from the enthusiasts who loudly demand "complete" examinations at every opportunity.

It is surprising to see it suggested that one must get a patient into a hospital in order to put a pint of glucose into a vein. With this lone exception it is agreed that this is an exceptionally fine guide in the conduct of pregnancy and labor, and our appreciation is expressed to the author for putting so much of value into print.

A vaginal examination should be deferred until the 10th or 11th week, by which time the patient is far enough along to make a diagnosis, it is early enough to correct any complicating pathology and there is less chance of precipitating an abortion. Until the last month abdominal examinations at each visit are unnecessary; then the size, presentation, position and amount of engagement of the presenting part can be determined. Primigravida with small or borderline measurements, abnormal presentations, or lack of engagement of the presenting part should have x-ray studies including x-ray pelvimetry.

Detailed instructions as to routine care: Low-heeled shoes; no tight garters; no douches or enemas unless specifically ordered; abdominal and breast support for comfort; light, loose-fitting clothing; no tub baths the last month. All activities should be minimized around menstruation.

Weight gain of more than 20 pounds should be regarded with concern, not because it affects the size of the baby, but as a warning of toxemia. A moderately strict, well-balanced diet throughout; a lack of protein predisposes to toxemia. The diet should be planned around a high protein intake. Green vegetables, fresh fruits will supply most of the vitamins and minerals needed. Carbohydrates should be restricted to a minimum. Skinned or buttermilk will not increase the weight, but will provide calcium and minerals. Calcium with vitamin D should be routine. Calcium, besides preserving the teeth and improving bone formation in the baby, decreases neuritis and aids the tone of the uterine musculature. If neuritis is not controlled by calcium, large doses of thiamine chloride should be added. Iron should be given routinely by mouth.

Laboratory studies should include routine Wassermann examinations, hemoglobin estimations, a

red blood count and a study of a blood smear along with blood typing and Rh factor determination, and urinalysis at each visit.

Patients known to have had syphilis should be treated during each pregnancy irrespective of the Wassermann report. Sulfa drugs must not be given.

When the red count is lowered, liver parenterally in 15 unit doses twice a week is in order. Any patient who has a hemoglobin lower than 10 gms. who does not respond to iron and liver therapy should have a transfusion before the onset of labor.

For transfusions the husband should be used as a donor only in an emergency. There are more frequent reactions to the husband's blood even though no apparent incompatibility is present. Besides the routine matching and cross matching, Rh factor determinations should be done.

In 1940 it was discovered that an agglutinable factor present in the rhesus monkey also occurs in 85% of humans (Rh pos.) and is absent in 15% (Rh neg.). Later it was found that Rh neg. mothers and Rh. pos. fathers frequently produce babies with erythroblastosis. Further studies showed that 13% of marriages are between Rh neg. mothers and Rh pos. fathers, yet the incidence of erythroblastosis is 0.1 to 0.2%. The combination does not predispose to abortion, but may cause premature delivery and stillbirths. Breast feeding is contraindicated. In case of Rh neg. mother and Rh pos. father combination, some advise inducing labor as soon as the baby is viable; others advise allowing the pregnancy to go to term and treating the baby by transfusions with Rh negative matched blood.

Rh positive patients can have any matched blood. Rh negative patients must have Rh negative matched blood. Rh negative women who need blood have a better chance of later having normal children if they are given Rh negative blood. Erythroblastosis foetalis is almost twice as frequent among Rh negative women previously immunized by transfusions. All hospitals should have available Rh negative donors, and physicians should check all females for Rh factors before giving transfusions, irrespective of the age of the patient.

Vitamin B complex parenterally has given dramatic results in some cases of vomiting of pregnancy. A daily total of 15 glasses of water should be taken; four between breakfast and lunch, five between lunch and supper and six between supper and bedtime. Hot or salt water may be more easily retained. If a glass is vomited wait a few minutes and drink another. Of 20 cases, 15 were completely relieved within four days, three showed improvement and two found the treatment worse than the nausea and finally had to be admitted to the hospital for glucose.

During labor internal examinations, whether rectal or vaginal, should be minimized. If delivery is expected within four hours nothing should be allowed by mouth. In case of nausea glucose by vein settles the stomach and prevents dehydration; also it seems to stimulate uterine contractions.

A soda bicarbonate enema is useful if the membranes are intact and if delivery is not imminent. Frequent voiding should be encouraged.

Chloroform is contraindicated in any case of toxemia. Vinethine is less toxic and has a wider range of usefulness. Ether is slower in its action, the baby is harder to resuscitate, and the frequent postpartum bleeding and prolonged anesthetic effect offset its wide margin of safety.

A medio-lateral episiotomy incision is much safer than a central, and will not extend into the rectum. As few sutures as possible should be used to closely approximate, these tied loosely—chromic catgut No. 0 or No. 1—interrupted in the muscles continuous in the vaginal mucous membrane ending with the edges of the hymen; the skin closed with interrupted black silk vertical mattress sutures.

Adequate nutrition, especially protein, with calcium and iron and vitamins will aid in preventing inertia.

Determine if there is any pelvic dystocia before attempting to stimulate contractions. Castor oil, quinine and hot enemas are of some value. Ergot is contraindicated. *Initial dose of pituitary drugs should be one minim* and the doctor should watch the reaction before ordering subsequent doses, repeated q. $\frac{1}{2}$ hr. for a total of six doses, if no bad reactions result. The author has seen 1 m. pitocin produce a contraction lasting 10 minutes, necessitating the use of an anesthetic to relax the uterus.

Calcium gluconate (10 c.c. 10%) given not over 1 c.c. per minute, every six hours, acts as a uterine stimulant and as a synergist to oxytocic drugs.

As soon as the second stage is reached the patient should be delivered by forceps. Convenience is not an indication either from the standpoint of the doctor, the patient or the relatives.

Occiput posterior positions are not as serious as is generally believed. Many rotate spontaneously. Little sedation is required.

Any excessive bleeding requires immediate massage, upward traction to put tension on uterine vessels, oxytocics along with calcium intravenously. Uterine packing seldom does much good and it is debatable whether it may not cause shock; certainly it predisposes to infection. Fluids intravenously along with plasma will prevent serious shock until blood can be given.

As the baby's head is being delivered a gauze sponge placed between the labia and the baby's mouth. A long-tipped rubber ear syringe will remove the mucus and the friction of the syringe on the back of the throat stimulates breathing. A

tracheal catheter works just as well. *Suction machines should not be used.* Friction up and down the spine with the fingers stimulates respiration.

Vitamin K during labor and postpartum to the baby has been used routinely and with no bad effects.

Routine use of vitamin A and D ointment to the nipples has decreased fissures and sores nipples as well as mastitis. In mastitis the breast should be tightly bound, ice used and sedatives for comfort. The use of estrogens is now widely advocated. Stilbestrol, mg. 1, two or three times a day until pain is relieved is the usual dose. The experience has been that the use of estrogens frequently upsets subsequent menstruation and results in increased bleeding.

Inability to void calls for prostigmin, 1-2000, 1 c.c. every hour for six doses in the muscle. If one drachm of 4% mercurochrome in the bladder stimulates voiding. A urinary antiseptic given at the same time prevents infection. If the patient has not voided by three days, a retention catheter should be left in the bladder with continuous drainage for 72 hours.

RHINO-OTO-LARYNGOLOGY

CLAY W. EVATT, M.D., *Editor*, Charleston, S. C.

GENERAL ANESTHESIA FOR TONSILLECTOMY

THE TECHNIC reported here¹ has been employed in 100 tonsillectomies and 20 tooth extractions with immediate insertion of dentures.

Following admission of the patient on the day preceding operation, three injections of vitamin K are given, bleeding and clotting times taken and premedication of nembutal gr. 1.5 h. s. and a hypo of morphine and scopolamine one hour before operation. Scopolamine is used in preference to atropine because it inhibits secretions more thoroughly, is effective longer, provides a degree of psychic sedation, and in doses of 1:25 with morphine almost entirely counteracts the respiratory depression of this narcotic.

The rebreathing bag of the gas machine is 75% filled with 50% oxygen and nitrous oxide. Three c.c. of 5% sodium pentothal are rapidly injected intravenously and, after a pause, 2 c.c. more. Some will not need the last 2 c.c.; others will require 10 c.c.

Following induction the face-piece is applied and the straps affixed. As the patient breathes from the bag, a flow of 50 to 60% cyclopropane in oxygen is administered with the CO₂ out of the circuit, until the eyeballs become fixed and the jaw well relaxed.

The gases are turned off, the mask removed and intubation performed. The endotracheal catheter is connected to the gas machine with a Y-connector

and a short piece of heavy tube, cuff inflated in the trachea until gentle pressure on the rebreathing bag indicates that the fit is snug, the balloon's pilot catheter is clamped, the CO₂ absorber is cut into the circuit, the rubber connecting tube and the metal adapter are disconnected. While the surgeon inserts the mouth gag, and the operation is begun. The surgeon's assistant, with the tongue depressor, holds the tube away from the operative site. In closed circuit, anesthesia is maintained with cyclopropane-oxygen, ether-oxygen or a combination of cyclopropane-ether-oxygen.

After the operation the laryngoscope is again introduced for the aspiration, under direct vision, of blood, mucus and debris. The patient is hyper-ventilated with carbogen from the machine, the cuff is deflated and the endotracheal tube is gently withdrawn on expiration as the reflexes return. A Guedel rubber covered airway is inserted and the patient is returned to the ward.

Vomiting is rare, and in this series there were no pulmonary complications, no sore throats or other symptoms due to the presence of inflated cuff in the trachea.

This method is applicable to any operation requiring general anesthesia but is of particular value in head, neck, nose and throat work where a clear airway is imperative and the anesthetist is best away from the field. It is well liked by dentists, when general anesthesia is required.

It is usually possible to complete induction and have the patient ready for operation in 5 to 7 minutes. A slightly longer time is required occasionally when a director is needed for the tube.

¹ D. H. McIntyre, Ottawa, in *Canadian Med. Assn. J.*, 55: 39, 1946.

INTERNAL MEDICINE

GEORGE R. WILKINSON, M.D., *Editor*, Greenville, S. C.

RECENT ADVANCES IN THE USE OF CURARE IN CLINICAL PRACTICE

THE VICTIOUS CYCLE of pain and muscle spasm Schlesinger¹ has seen in all degrees yield to treatment. This response is useful diagnostically in ruling out root compression as a causative factor. If pain of radicular type persists in spite of marked diminution of spasm and diffuse pain, it is probable that root compression is the underlying cause.

The case is cited of a 48-year-old member of a medical college faculty who, over a period of years, had occasional lumbosacral pain with moderate muscle spasm. In February, the pain and spasm became severe, and the patient was in constant great discomfort in all positions. Traction was instituted without relief. Morphine and sedation were used in large doses. The orthopedic attendant advised a body cast full length, and this was applied.

¹ T. B. Schlesinger, New York, in *Bull. N. Y. Acad. of Med.*, Oct.

The patient complained more and more bitterly, remained sleepless, and unrelieved. At the end of four days spinal anesthesia was contemplated to reduce muscle spasm of the entire low back region and severe pain.

A trial of curare in oil was agreed upon instead. One c.c. of the suspension was given in the right buttock. Two hours later the patient stated that his back muscles had relaxed and the generalized pain had vanished; now only focal pain on motion at the lumbosacral articulation. Relief of pain was followed by adequate rest without medication. The third day, in dread of a recurrence, he requested a second injection. The same dose of drug was given at this time and again three days later. The spasm never recurred and the patient's subsequent convalescence was completely uneventful.

In spastic paraplegia—*birth injuries, cerebral diplegia or spasticity with dystonic features*—curare in oil has proved a valuable adjunct.

Improvement can be expected in the following sequence: 1) speech, 2) ability to sit quietly, 3) gait, and 4) eating, writing, and performance of all skilled motor activities. These patients have maintained their improvement on twice-weekly doses.

Rigidity in Parkinson's disease with extreme discomfort, immobility and beginning contracture can be partially alleviated. Sleep is invariably improved, which means much to Parkinsonians. The pain of long-standing muscle tension can be influenced to a gratifying degree. In rigidity there is, however, a wide disparity in response, and in dosage tolerated.

Patients almost invariably note a pleasurable feeling of relaxation within two hours after injection.

Contraindications are: 1) any myasthenic tendency and 2) kidney disease. Since curare is eliminated largely unchanged in the urine, poor renal function conceivably could elevate blood concentrations to a dangerous degree.

An improved vehicle along with a well standardized drug has permitted us to exploit the physiological properties of curare. In a series of 1500 injections in various syndromes, no alarming toxic reactions have occurred. The major number of patients have been ambulatory and at their normal occupations during treatment. In therapeutic dosage range the drug has been singularly free of side effects, and has shown no tendency to disturb the normal body economy or cause habituation. Spasm, spasticity and rigidity are affected in order of decreasing efficiency. Dosage levels are strikingly related to the degree of motor acceleration. Duration of effect also seems inversely proportionate to the degree of motor spontaneous activity.

On the basis of this, and further studies, it is

hoped that the usefulness and safety of this agent may be increased, particularly since its field of action is in disease entities which are singularly refractory to treatment.

Any report in the *Bulletin of the New York Academy of Medicine* commands respect. So, this account of the highly favorable action of a remedial agent which is not widely used or known is abstracted for our readers, and it is suggested that you write the author requesting a reprint of this and any other article he may have written on the subject.

ORTHOPEDIC SURGERY

TREATMENT OF WEAK, PAINFUL FEET

Walter Truslow, Brooklyn, in *Clinical Med.*

AN ARTICLE¹ by Tryslow encourages the practitioner to treat his own patients who came on weak, painful feet.

Any good physician may do much to relieve the disorders of first and second degree flat foot. These cases need: 1) shoes ample enough to avoid faulty pressure effects; 2) adequate basal support; 3) muscle reeducation to restore tone of weakened muscles.

Temporary relief may be obtained by building up the insole by padding and strapping for one week only. A piece of felting is cut and the edge beveled to make a pad which shall extend from the inner rear of the arch forward to the bases of toes 1 and 5 and somewhat further forward to support the bases of toes 2, 3 and 4. It should be highest between the scaphoid bone on the inner side of the long arch. This "sole contourer" is applied to the sole of the foot and held to it by just enough adhesive plaster to keep it in position, the resulting dressing constituting a slipper. Only in case of ankle swelling should the adhesive plaster extend upward, and that not more than two inches above each malleolus. Such padding and strapping usually affords immediate relief from pain and prepares the feet for more permanent support.

Before padding and strapping, the doctor should draw an outline of the foot on a large pad, note the base of the great and the little toe and the point near the rear of the inside where the long arch should begin to rise. He then takes this tracing to his work bench or desk and with the patient's shoe before him, and with the use of a caliper, projects the width of the heel and the width of the front of the shoe's insole on his diagram and draws freehand the sides of the insole.

Before the patient's return the doctor constructs the more permanent insoles from leather and light cork or felting to fit the individual patient. He may need the services of a cobbler to glue and sew the insole.

Most patients will be entirely satisfied with this splint and will wear it indefinitely. However, the ideal is to relieve the muscle tone of the foot to such an extent that special insoles may be gradually discarded.

Except in cases of extreme flat foot, this restoration can be accomplished by muscle reeducation. Special foot exercises are given at the visit when the more permanent insoles are applied. Exercises should be given in a sitting position.

TREATMENT OF SACROILIAC SPRAIN BY MANIPULATION

SACROILIAC SPRAIN is a definite entity. It is the major cause of low-back pain. It occurs gradually as the development of relaxation and postural strain alters the mechanical and static forces of bodily equilibrium between the trunk and the lower extremities or it develops suddenly as a result of some traumatic event. Such is the conviction of Bidwell,¹ who goes on to describe a treatment which has proved good in his hands.

In cases of sacroiliac displacement, commonly called sprain, there is a history of a combined effort in motion, with twisting of the trunk and tilting of the pelvis in one of many ways, almost always standing with one foot ahead of the other. He is unable to straighten up and when seated cannot bend over to tie his shoe on the floor.

The pain is generally severe and localized in the affected joint. Roentgen examination almost always fails to reveal sacroiliac displacement.

The method here described is the one used by Travell and Travell, who reported that "the ultimate result in 162 cases of sacroiliac displacement subjected to this form of manipulative technique showed 126 cured, 26 improved, 3 unimproved, 5 outcome unknown."

In Bidwell's series of 146 cases treated by this method over a period of three years displacement was right in 97, left in 61, bilateral in 5 of the sacroiliac joints, moderately severe in 60, mild in 80, and in 117, subacute in 12 and chronic in 14. Recovery resulted in 139 cases and in 6 the outcome was unknown. The average period of treatment ranged in mild cases from 1 to 6 days to 6 weeks. In moderately severe cases, recovery time ranged from 2 to 12 weeks.

In the majority of the cases the use of an adhesive plaster brace or strapping is advised after the initial reduction of the misalignment. This is particularly true in the bilateral cases and in those where the sacroiliac joint is severely dislocated. If the patient is not sufficiently relaxed so that he can relax the muscles of the trunk and the gluteal muscles, the adhesive plaster brace should be applied. The adhesive plaster brace is applied in such a manner that the patient can relax his trunk and the gluteal muscles without being conscious of the fact.

¹ A. M. Bidwell, Tampa, in *JL Am Med Association*.

In the examining table the patient is placed with the affected sacroiliac joint up; lower extremity unaffected in a straight line with the body; thigh and leg on the injured side slightly flexed, knee on the table; pelvis on injured side tilted forward so that the abdomen rests partly on the table, shoulder on the unaffected side drawn forward, on the injured side pushed backward.

The operator then places the palm of one hand on the shoulder of the affected side and exerts pressure backward with the forearm at right angle to the shoulder; he places the palm of his other hand on the ilium of the injured side, with the heel of the hand just above the ischium, the inner margin of the hand at the sacroiliac joint and the forearms at a right angle to the buttocks. He now exerts steady pressure with both hands, putting forth his greatest effort to effect maximum rotation of the pelvis on the spine. After maintaining this position until his arms tire, he gives a thrust with both hands. A click or series of clicks then occur as the subluxation is reduced. Satisfactory reduction is sometimes obtained without the hearing of a sound.

When there is perhaps not sufficient objective proof of dislocation of the sacroiliac joint, the application of this technic offers a therapeutic test for determining its presence. The results in most cases are startling. The patient now stands erect and walks without a limp. Sitting, he is able to reach his toe on the floor, and when he gets up from a chair, his back feels free. The pain is gone although the soreness remains.

To get in bed, in all cases the patient is instructed to face the head of the bed, leg on sprained side against the side of the bed, hands on the bed, body, thigh and leg all in a straight line. He next swings up onto the bed with the injured side, and the foot on the unaffected side is drawing into bed. He may then turn on the back. To get out of bed, this same maneuver is reversed, starting with the foot down, he puts the foot of the uninjured side on the floor first; then the body and the lower extremity are turned, and the leg in a straight line are rolled out of bed.

The patient is cautioned in picking up an object from the floor to come alongside of it and squat to obtain it with a straight back. To obtain an object at the side, he should not turn on the spine, but not sit in the floor, but should walk around. To mount or descend step or curbs, or to climb or get in or out of a car, he should push himself up and let him off down with the leg on the uninjured side. To bridge, he should stand with the feet even, one foot behind the other, and the weight carried on the front foot.

A salve containing equal parts of 3% of turpentine and methyl salicylate is prescribed. The

patient is directed to apply a hot compress to the painful area for 20 minutes and then rub this area with the liniment for 2 min. at 8 a. m., 12, 4, and 3 p. m. In mild cases, this after-treatment is all that is usually required. In moderately severe and severe cases, the patient is sent home to rest for one week, with lavatory permission granted, and is then allowed up. In severe and chronic cases, after the end of the first week the patient wears a suitable sacroiliac belt as protection for as long as two or three months after he has returned to work.

UROLOGY

RAYMOND THOMPSON, M.D., *Editor*, Charlotte, N. C.

SEXUAL CRIME

THERE is a large group which manifests an unwillingness to abide by social regulations. The many regulatory laws, which have increased greatly in the last few years, have resulted in a tremendous addition to this class. While the expressions of sexual appetite seem very complicated, the facts are comparable with those having to do with fertilization throughout nature, explanatory on the ground that all living matter shall be reproduced. So appetite is necessary to society. In man there is no example of promiscuity having social sanction. Legal sexual expression is possible only to mature members of the opposite sex. Sexual crime, then, is any expression of the sexual appetite outside the limits prescribed.

A sociologist¹ sheds light on the subject.

A night foreman got acquainted with a young woman. One day they went to a house where the girl was introduced to a man alleged to be a Justice of the Peace. A marriage ceremony was performed and they went to a Boston hotel, where they spent the night, after which the man disappeared. He was subsequently found to have a wife and two children and was sentenced to prison for 2½ to 3 years on the charge of abduction.

Cruelty is closely allied to sex. Cruelty is a normal attribute of the human. There are persons who habitually seek sexual satisfaction through cruelty. A considerable group of individuals get satisfaction through indecent exposure. The act appears to be an end in itself.

Homosexual activities among adolescents are of little psychological or sociological significance.

Abnormal appetites are manifested in various ways. Some older men are attracted only by younger females, others by younger males. Some persons are stimulated by kissing, while others are repelled by this act. In some cases sexual interest is almost entirely with the genitalia, in others with the secondary sexual organs.

Senility occasionally brings with it morbid interests especially concerned with attacks upon chil-

¹. A. W. Stearns, Professor of Sociology, Tufts College, Medford, Mass., in *Jour. Maine Med. Assn.*, Oct., 1946.

dren, both males and females. Peeping Toms get excitement and satisfaction out of peering into windows, and rarely have any other sort of sex life.

Gross vagary of conduct in sexual matters rarely indicates insanity. It more often indicates a morbid personality. While the public and the police often think that they are dealing with insanity, this seldom turns out to be the case. We have, then, a large number of persons who are held to be legally responsible, but who are irresponsible socially.

GENERAL PRACTICE

WILLIAM R. WALLACE, M.D., *Editor*, Chester, S. C.

EARLY DIAGNOSIS OF BRAIN TUMORS

A MINNEAPOLIS anesthesiologist recognizes the fact that much surgery is done by the general practitioner, and writes helpfully on anesthesia¹ in this practice. He does not agree with those who would have it that unless one devotes himself exclusively to surgery, he is not competent to pick out a sliver or open a boil.

The classical symptoms pointing toward a brain tumor, headache, vomiting and choked disc, are frequently lacking. Usually there is a history of a lesion, slowly growing, occupying confined space and pressing upon neural structures. A vascular accident may first call attention to 20% of all cases of brain tumor. This accident is hemorrhage into its substance, which starts the chain of events. One of the commonest symptoms of a brain tumor is visual disturbance—rapidly or slowly failing visual acuity, a blurring of vision, diplopia or scotomata, or even formed visual images. Mental change is a rare phenomenon of frontal or temporal tumors. Some dulling of the mind occurs in any case of increased intracranial pressure. Loss of inhibitions, facetiousness and untidiness are seen in frontal-lobe tumors. Sphincter difficulties are fairly common. Paralysis occurs only in tumors of the area, so one may have a very large brain tumor yet no paralysis. Progressive weakness and finally paralysis of a side, a foot, or an arm, or progressive anesthesia points to intracranial neoplasm. Convulsions constitute one of the most important symptoms. Any individual over 30 who begins to have convulsions, generalized or local, must be considered to have a brain tumor unless proven otherwise. A good example of such a condition and of a typical brain-tumor history is that of one who begins to drag his left foot, to have a few headaches; his left leg then becomes weak; and finally he awakens to find that he has had a convulsion which began with the left toes and foot, extended up the leg to include the arm and the face, and then became generalized.

¹. W. G. Haynes, Birmingham, in *Jour. Med. Assn. of Ala.*, Oct.

SURGERY

ANASTOMOSIS OF THE AORTA TO A PULMONARY ARTERY

THE INTRODUCTION of this subject brings up the idea that here is an offer of possible relief from a condition heretofore hopeless of relief. And such it is in some cases, according to Potts' report¹

In 1945 Blalock and Taussig introduced a new procedure—suturing the subclavian or innominate artery to the right or to the left pulmonary artery—for the relief of anoxemia due to pulmonary stenosis or pulmonary atresia. Theirs is an important contribution to the relief of children whose outlook without aid is hopeless. Sacrifice of the subclavian artery for the anastomosis of its proximal end to the side of a pulmonary artery involves little danger to the circulation of the arm. Use of the innominate artery for such an anastomosis entails the hazard of an inadequate supply of blood to the brain.

An anastomosis between the aorta and the pulmonary artery can be performed safely only if a substantial amount of blood is flowing through the aorta during the procedure. This was made possible by the use of a new type of clamp which two of these authors have designed. When the clamp is closed the lumen of the aorta is reduced to half its size.

The details were worked out on 30 dogs.

Aortic pulmonary anastomosis has been performed on three children. Cyclopropane and oxygen anesthesia was used. A cannula was inserted into the saphenous vein at the ankle for the continuous administration of plasma and for the emergency administration of blood. The chest was entered by an incision through the fourth interspace, and adequate exposure was obtained with a ribspreader. The collapsed upper lobe of the lung was displaced from the operative field by a wet laparotomy pad.

The anastomosis was done with No. 5 Deknatel silk on a No. 9 curvedatraumatic needle; stitches were placed 1 mm. apart and included all layers of both vessels.

Only because they were backed by the sound principles set forth by Blalock and Taussig for the surgical relief of anoxemia in certain types of congenital heart disease did Potts have the courage to attempt this new operation. The operation is not a simple one. In attempting this new procedure it seemed only fair to choose those patients whose condition was such that without aid their future was hopeless. The two children who survived the operation have been tremendously benefited.

1. W. J. Potts *et al.*, Chicago, in *Jl. A. M. A.*, Nov. 16th.

SURGICAL PRINCIPLES IN WOUND MANAGEMENT (F. B. Berry, Col. M.C., A.U.S., in *Bul. N. Y. Acad. Med.*, Nov.)

Seven hundred years ago the principle that wounds should heal *per primam* was enunciated by Ugo of Lucca. After a hundred years, however, this heretical opinion was overridden and surgery went back to the Galenic theories of *pus laudabile* and polypharmacy, not to emerge again until the last half of the 19th century under the leadership of Baron Lister, who firmly established antisepsis and then asepsis.

In 1891 William S. Halsted taught the modern principles of wound healing. Our present conceptions are based upon his teachings. The points in the surgery of the wound and its repair are sharp dissection, gentle handling of tissues, complete hemostasis, maintenance of blood supply, avoidance of tension and strangulation of tissues, obliteration of dead spaces, the use of fine ligatures, the *excision of all devitalized or dead tissue*, the removal of foreign bodies, and the application of a nonconstrictive dressing of even pressure.

In the cleanly prepared wound bactericidal agents are not only not indicated; they do harm.

It is not necessary to "stimulate" healing. This will progress normally provided a wound is properly prepared, left clean, and dressed with a simple supportive dressing, and provided the patient is maintained in a normal balance as to hydration, blood picture, nutrition and vitamins.

RESEARCH BRINGS LIGHT AND ENLIGHTENED UNDERSTANDING (O. H. Wangensteen, Minneapolis, in *Jl. Lancet*, Sept.)

The work of man in this world is the establishment of order which is also heaven's first law. It is to be hoped that man may learn the value of the scientific method in helping him get on with his fellowman, just as he accepts gladly the gifts of scientific research to the enrichment of his daily life. Research brings light where there was darkness, and much as the world needs light it stands even in greater need of an enlightened understanding. Few of us who profess to follow teaching and research will be bringers of the light, but we can all be ardent seekers after it, and strive mightily for an enlightened understanding. The graduate student who centers his career about research, and who is driven by an anxiety to contribute to the welfare of his fellowman, will find in the accomplishment satisfaction and personal happiness. I hope that none of you will abandon this prospect which research holds out to all who follow her with diligence and devotion.

HEARTBURN IN PREGNANCY (D. B. Roth, Teaneck, in *Jl. Med. Soc. N. J.*, Nov.)

Prostigmine methylsulfate intramuscularly 0.5 mgm. relieved 14 out of 16 women for as long as 10 days. Prostigmine bromide orally in 1.5 mgm. tablets gave complete relief to 15 out of 20 patients and partial relief in two more. Similar relief was given six out of seven women by the oral medication. The drug acts best in the evening of days the patient experiences symptoms. Relief is usually prompt and lasting; occasionally by a second dose in the night.

Large doses of B-complex are also efficacious. A report of a series in which yeast, thiamine chloride and nicotinic acid to a group of women complaining of heartburn. Of 16 women, 12 had complete relief, two had partial relief and two were unchanged. Best results were obtained among patients who received thiamine intravenously in 50 mgm. doses followed by 25 mgm. daily by mouth for several days.

Heartburn of pregnancy is an annoying complication of the third trimester. The benefit from prostigmine and vitamin B has been such that a further trial of these agents is indicated.

SOUTHERN MEDICINE & SURGERY

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As is true of most Medical Journals, all costs of cuts, must be borne by the author.

A FOUR-YEAR MEDICAL SCHOOL IN A VILLAGE? NO

OVER a period of more than three years a campaign has been carried on in North Carolina for putting into effect a remarkable scheme for providing better medical care for all our people. The chief argument advanced for the need is the fact that in North Carolina a larger percentage of draftees were rejected than in any other State. The percentage, large as it was, of rejectees in our State differed little from such percentages in other States with a comparable illiterate and Negro population, and North Carolina's showing could with more reason be attributed to the care of her doctors to adhere closely to the rigid requirements of the Government: in view of the large percentage of rejections because of illiteracy, it was much more chargeable to gross defects in our educational system, with the University as its capstone.

As this journal has repeatedly stated, analysis of the causes for rejection shows that the vast majority were due to causes in no way preventable under a democracy. furthermore, that 90 per cent of the rejectees were competent to discharge all the duties of civilian life, and were insurable as average risks. It is entirely possible that a fact of which North Carolina boasts loudly—that her people have the least admixture of foreign blood of any State in the Union—may explain the large number found mentally and or physically disqualified; for this consequence of close inbreeding is well established.

In our October issue we had this to say about the proposed four-year medical school feature of the Great Plan:

All of those who might be interested in this matter are acquainted with the progress of events in this connection up to and including the majority report of the National Committee for the Medical School Survey.

Not all of those interested are acquainted with the minority reports and the report of Dr. W. S. Rankin, member of the North Carolina Medical Care Commission. These latter reports fully support opinions entertained and expressed by this journal over many years, which may be summed up in a sentence: (1) North Carolina has no need for a third four-year medical school; (2) If those of the contrary opinion can bring about the establishment of a third four-year medical school in North Carolina it would be the lesser evil to establish this school in one of the cities of the state.

So far as this editor knows, no one has ever answered his questions: (1) Would a diploma from a medical school in a village of 5,000 inhabitants be accepted by Medical Examining Boards as admitting to their examinations?; (2) Would those

wishing to study and practice medicine choose a medical school whose diploma would not admit to examination from the Atlantic to the Pacific, from the Great Lakes to the Gulf?

As to the urgent need for more hospitals in North Carolina, the editor again calls attention to the fact that the death rate is not as high in the counties of the state which have no hospitals as it is in those counties having hospitals, and this despite the fact that the average age of the inhabitants of the no-hospital counties is considerably the higher, which, other things being equal, would make the rate in the no-hospital counties higher.

Finally, it is astonishing to find in most, if not all, the expressions of those strenuously advocating the four-year school at Chapel Hill questioning of the intelligence and or the integrity of those who hold other views. There is entirely too much lining of eyebrows; too many insinuations that those who dare oppose the will of these zealous, but misguided persons, are not disinterested nor unprejudiced.

What motive, pray you, other than a disinterested, earnest desire to best serve our people, could possibly actuate any one to oppose himself to a movement for which such a popular, albeit frothy, sentiment has been worked up?

For centuries there has been in the British Parliament an organization honored as His Majesty's Loyal Opposition. Maybe that explains why, for saving the world, Britain could put forth a Churchill, while the best we could offer was a Roosevelt.

In this present issue Dr. W. S. Rankin plainly and minutely states why he is opposed to this unprecedented project.

How anyone can fail to be convinced by his powerful portrayal of the fallacies of the majority report of the North Carolina Medical Care Commission is beyond my comprehension, except that I recall the words of Dr. Oliver Wendell Holmes: "Neither immaculate honesty, nor vast general acquirements, nor even great mental acuteness, is any specific against human folly."

Dr. Rankin makes a point made in many an editorial in this journal. This he offers as the major reason in concluding his masterful argument:

"Another four-year medical school in North Carolina will be constructed and operated with funds that are needed by our general hospitals and our mental hospitals."

The evidence he offers is to me conclusive proof that even if we were, in per capita wealth, as close to the top of the list of the States of the Union, as we are in fact close to the bottom; that if we were supporting all of our mentally diseased in the best manner known to humanity and medicine; that if

we were paying our schoolteachers handsome instead of niggardly salaries—to build a four-year medical school in a village of 5000 souls would be unjustified from every point of view. Under circumstances as they actually exist it would be a dire calamity.

TRI-STATE MEETING MARCH 3D AND 4TH

A HALF-CENTURY AGO a group of the foremost doctors in the three States of South Carolina, North Carolina and Virginia, in their wisdom, brought forth this organization. Their wisdom has been justified, abundantly. Reference to the published records of its meetings shows that from these meetings emanated all the most life-saving of the discoveries made from time to time; and that the Fellows were remarkably cognizant of organizational needs, and anticipatory of the developments of dire threats to our people's welfare through interference with the doctor's right to minister to his patient in an honest, intelligent, mutually self-respecting manner.

In the good city of Greensboro, at the hotel named for O. Henry, on the 3rd and 4th of March, the members of this venerable organization of men of medicine will gather for better diffusion of the best in the medicine and surgery of today. Distinguished guests of rare accomplishment in the specialties will tell us things for the good of the kind of patient we see now and then. Our own membership will supply essays and clinics full of the latest information on how to best diagnose and best treat the conditions which bring the ninety-and-nine of our patients to seek our services.

You will be counted on to be in attendance, and to bring along at least one other good doctor to share our good things.

DR. DOUGLAS JENNINGS, Bennettsville, S. C., died of a heart attack on the first day of the present month. Dr. Jennings was born in the great county of Marlboro, the home of his ancestors for many generations. He spent his energies in that county, to the great good of all its people, indeed of all the people of his State and of the bordering counties in North Carolina. He had filled all the important offices within the gift of the doctors of his State, and of the doctors of the Tri-State Medical Association of the Carolinas and Virginia. He will be more fittingly celebrated in the meeting of this Association to be held in February.

DOCTOR PAUL PRESSLY McCAIN

THE PRESSLEYS have been doctors since so far back that the memory of man runneth not to the contrary. And they have always been good doctors, representatives of the best in the medicine of the time.

Writing in great detail the facts of a person's existence has never appealed to me. If they concern a person of consequence, those details are known to all those who might be interested, and so their enumeration is superfluous; and, as to those who do not know, their interest is not to be enlisted. Only the broad outlines of a big man's achievement are pertinent to an obituary notice.

When Dr. McCain came to the North Carolina Sanatorium for the Tuberculous the sanatorium had less than five hundred beds for the occupancy of the consumptives of the whole State. Now the number of beds so available in the parent State hospital, the offspring State hospitals, and the County hospitals, in the aggregate, number some ten times as many in thousands.

No claim is advanced that this great accomplishment is that of Dr. McCain alone. He has had the eager, zealous and sustained coöperation of doctors and laymen from the mountains to the sea. But his was the headship of the movement; his the wise conception of what should and could be done, and how and when; his the strong, deft guiding hand.

Some tens of thousands in our State are living, useful citizens, fathers, mothers, who, but for this man, had long ago died miserable deaths. Many more in the wide world, for his light was not kept under a bushel.

An automobile accident took him from us, terminated his usefulness. How can anybody believe that it was other than accident? or, in the light of such happenings, that there is any such thing as a *special* act of Providence?

DR. HAROLD CLINKSCALES SHIRLEY

IF THERE BE ANY among you who hold that in order to succeed in medicine one must be a mealy-mouthed back-slapper, let him contemplate the case of Dr. Shirley.

Nobody ever heard him say a complimentary word about anybody he did not consider deserving of a high place—and Dr. Shirley was exacting in his criticisms.

Certainly, Dr. Shirley could have seen his name far oftener in the public prints; certainly, when he came to die a lot more of "honors" would have been called his, had he been one of those to "crook the pregnant hinges of the knee that thrift may follow fawning."

He chose the manlier part. Confident that his superior qualifications, of themselves, would suffice to bring him recognition and a respectable livelihood, he, in a dignified way, offered his services to the people of Charlotte and its environs; and the results attest that one may be honest as a doctor and honest as a man, bow the knee to no nabob; yet attain to high place in the esteem of his

fellow-doctors and the informed of the general public, and, also, attain to pecuniary affluence.

Dr. Shirley had no mock-modesty. He was of that small number extolled by the Arabs as, "those who know and know that they know." But there was no arrogance in his consciousness of the superiority of his endowment and his opportunity. He took no credit to himself for these marks of fortune. He was intolerant and scornful of nothing but pretentious ignorance.

The achievements of his life constitute a confirmation of the statement, "virtue is its own reward"; a refutation of the cynical retort, "and its only reward."

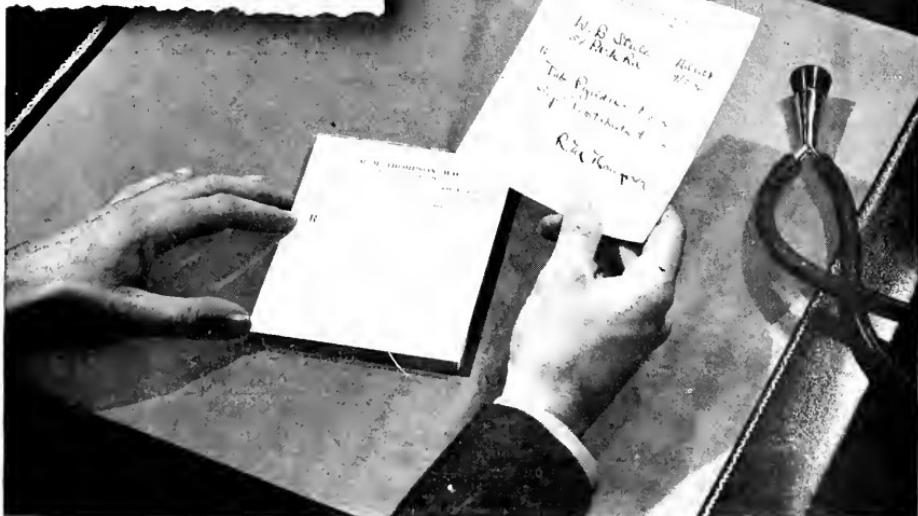
ONE SNAKE, ONLY

OVER many years has the editor of this journal protested against the ignorant and absurd use of the caduceus instead of the staff of Aesculapius as the symbol of the medical profession of the U. S. in general, and of the Government medical bodies in particular.

We hail with joy Alan Gregg's forceful protest and print it, in the desire, but not the least hope, that the powers that be may prove susceptible of instruction.

"The symbol of the medical profession everywhere but in America is the rod of Aesculapius with one snake twining round it. By some gaffe of careless observation and spurious pretense at scholarship, the caduceus of Mercury has been accepted on our continental scale as the correct and traditional emblem of our profession. Now we may admit that mercury has long been a medicinal standby and perhaps a traditional favorite, but hardly to the point of symbolically suggesting our major therapeutic task. But not more than two hours of research in a good library will show you that the god Mercury was the patron of gamblers, of commerce, and of messengers. His caduceus therefore properly belongs upon gambling hells (or palaces), on stock exchanges or chambers of commerce, and on post offices. But in the benighted states of our Union you will find it on hospitals, doctors' automobiles, the insignia of the United States Public Health Service, and the uniforms of medical officers and nurses in our Army. There is Gargantuan humor in reflecting on so strange a device under which to practise medicine—the symbol of taking chances, bearing tidings, and making money! The caduceus of Mercury given him by Apollo in exchange for the lyre turned everything into gold!"

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tal tract, this important effect of Pyridium is entirely local. It is not associated with or due to systemic sedation or narcotic action.

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NEWS

SOUTHEASTERN ALLERGY ASSOCIATION

The second Annual Session of this Association will be held at the Atlanta-Biltmore Hotel, Atlanta, on January 18th and 19th.

Dr. Hal M. Davison, Atlanta, is President; Dr. J. Warwick Thomas, Richmond, Vice-President, Dr. Katharine B. MacInnis, Columbia, Secretary-Treasurer of the Association.

The program will include the following papers:

Contact Dermatitis—Leon Unger, Chicago

Medical Management of Bronchial Asthma—W. C. Spain, New York City

Modern Allergic Ideas and Treatment—Harry Rogers, Philadelphia

Treatment of the Acute Asthmatic Attack—Mason Lowrance, Atlanta

Gastro-Intestinal Allergy—J. A. Rudolph, Miami Beach

The Significance of Skin Tests in Drug Sensitivity—Oscar Hansen-Pruss, Durham

Urticaria and Anxio-neurotic Edema—Ben Mill, Columbia

X-ray Therapy as an Adjunct in the Treatment of Bronchial Asthma—Katharine Baylis MacInnis, Columbia

Allergy in a Small Town—Luke Glennant, Denmark, S. C.

The Importance of Predisposing and Contributory Factors in an Allergic Evaluation—Nelson Zivitz, Miami Beach

The Allergic Child—Walker H. Rucks, Memphis

Perfume Sensitivity—Dave Thomas, Augusta

Pulmonary Tuberculosis and Allergic Asthma—Norman Van Wezel, Montgomery.

UNIVERSITY OF VIRGINIA

On October 16th, Doctor Charles Mann, of E.R. Squibb & Sons, presented to the student body three films on the use of penicillin:

Penicillin in Medicine, by Harrison Flippin, M.D., of Philadelphia.

Penicillin in Venereal Diseases, by J. R. Heller, Jr., Surgeon, U. S. Public Health Service.

Penicillin in Surgery, by Frank Meleney, M.D., New York City.

Doctor Vincent W. Archer, Professor of Roentgenology, spoke at the Interstate Postgraduate Clinics in Cleveland, Ohio, on October 18th on Pitfalls in Spinal Diagnosis.

Doctor Archer was elected President of the Virginia Radiological Society on October 15th.

Doctor H. B. Mulholland has been appointed a member of the Metabolic Disease Study Section of the National Institute of Health. He has also been appointed liaison member of the committee to coördinate medical activities, formerly the Committee on Pre-War Medical Services.

NATIONAL ADVISORY CANCER COUNCIL PAYS TRIBUTE TO DR. HORSLEY

The Council paid tribute to the late Dr. J. Shelton Horsley in the following resolution passed at the November 8th meeting:

"Whereas the death of Dr. J. Shelton Horsley, a former member of the National Advisory Cancer Council, a learned teacher, a surgeon of great skill and judgment, and a constant contributor to medical knowledge, removes from the field of cancer research and treatment an honored leader, a wise scientist and a beloved colleague, and

"Whereas Dr. Horsley made many important contributions in the difficult field of cancer, and served as a loyal and distinguished member of our Council, be it

"Resolved that the Council express its appreciation of the contributions and leadership of Dr. Horsley in the field of clinical cancer and cancer control activities, particularly in his endeavors to improve the treatment and care of those stricken by this disease, and be it further

"Resolved that the National Advisory Cancer Council duly assembled, express its deepest sympathy at the loss to the manifold activities in the field of cancer entailed by Dr. Horsley's death, and be it further

"Resolved that a copy of this action be sent to the bereaved relatives of Dr. Horsley and be spread upon the Minutes of the Council."

DR. CRISPELL GIVEN NEW RECOGNITION

"One of the nation's greatest psychiatrists, Dr. Raymond S. Crispell, Associate Professor of Psychiatry at Duke University School of Medicine, has been named director of the Veterans' Administration neuro-psychiatric program in five Southeastern states." This is the wording of a news service report on the appointment.

As Chief of the Neuropsychiatric Division of the Department of Medicine and Surgery of the Southeastern branch office of the VA, Dr. Crispell will supervise all VA psychiatric work in Georgia, Alabama, Florida, South Carolina and Tennessee.

Dr. Crispell was on the staff of Gen. Roy S. Creiger during the invasion of Okinawa.

DR. J. A. FIELDS, of Raleigh, N. C., a retired naval officer, has accepted appointment as medical director and health officer for Halifax and Pittsylvania Counties. Dr. Fields has already established his residence at South Boston, Va., and will discharge the duties of these combined positions until an additional director can be obtained.

SCHERING SPONSORS CAMPAIGN FOR NURSES

The serious shortage of graduate nurses in the country caused Schering Corporation, of Bloomfield and Union, New Jersey, to support a campaign to induce more young women between the ages of 18 and 35 years to enter the nursing profession.

This campaign, presented in local New Jersey newspapers, was conducted with the cooperation of the Blue Cross Plans and the hospital and nursing organizations of America. The inducement presented to prospective young nurses included the advantage of salaries paid to nurses as compared to those paid to office workers, library employees, teachers, and personnel of high schools and colleges. The greater sum saved weekly by nurses after expenditures for food and rent, was pointed out in the campaign.

"SCHERING AWARD" PRIZE WINNERS ANNOUNCED FOR 1946

Mr. Francis C. Brown, President of Schering Corporation of Bloomfield and Union, New Jersey, announces the winners of the 1946 "Schering Award" for the best essays on the subject of "The Role of Hormones in Sterility." Offered annually by the Schering Corporation, the "Schering Award" is directed to clinical endocrinology with a new phase of the subject developed each year.

Mr. Bent C. Boving, Lansdowne, Pennsylvania, a student at Jefferson Medical College of Philadelphia, was awarded the \$500.00 first prize; Mr. William O. Maddock, Portland, a student at the University of Oregon Medical School, the second prize of \$300.; and two papers were adjudged equal in merit and deserving of third prize, and two third prizes of \$200 each were awarded—one to Mr. Lionel M. Mapp, of the McGill University Faculty of Medicine, and a resident of Montreal, Quebec; the other to Mr. Stonewell B. Stickney, of Mobile, a student at Tulane University of Louisiana School of Medicine.

The judges were: Dr. I. C. Rubin, Clinical Professor of Gynecology, Columbia University College of Physicians and Surgeons, New York; Dr. Ephriam Shorr, Associate Professor of Medicine, Cornell University Medical College, and Dr. Sidney C. Werner, Associate in Clinical Medicine at the College of Physicians and Surgeons.

DR. EDGAR M. DUNSTAN, having returned from active service in the Army of the United States, announces his association with the *Lowrance Clinic*, Suite 215 Doctors Building, Atlanta.

THE PITT COUNTY (N. C.) MEDICAL & DENTAL SOCIETY held its regular monthly meeting at Farmville Thursday, November 14th, Dr. F. P. Brooks, the president, presiding, with Mrs. J. M. Newborn and R. T. Williams as hosts.

The scientific program on The Control of Uterine Hemorrhage at Delivery, was presented in the form of a motion picture of cases from Dr. Joseph B. De Lee's Clinic, Chicago.

The Pitt County Health Officer, Dr. Ennett, made his regular monthly report showing for October 524 immunizations for diphtheria and whooping cough and 3,596 examinations and inspections of school children.

The following officers were elected for the coming year: Dr. J. M. Mewborn, president; Dr. B. McKay Johnson, vice-president; Dr. C. F. Irons, secretary-treasurer; Dr. R. C. Smith, delegate to N. C. Medical Society, with Dr. D. L. Moore, alternate.

UROLOGY AWARD.—The American Urological Association offers an annual award not to exceed \$500 for an essay (or essays) on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than five years and to residents in urology in recognized hospitals.

For full particulars write the Secretary.

Dr. Thomas D. Moore, 899 Madison Avenue, Memphis, Tennessee.

Are You Going To "Be There" At Atlantic City June 9th-13th, 1947?

Cups and medals are the rewards. Also \$34,000 in Savings Bonds for the Special Contest, "Courage and Devotion Beyond the Call of Duty" (in war and in peace).

The reward is also professional pride in the achievements of the medical profession in the field of fine art—and also what art can do for you personally—physically, mentally and spiritually. "Art is the best occupational therapy for physicians."

For further information, write: Harvey Agnew, M.D., President, A.P.A.A., 280 Bloor Street West, Toronto 5, Canada, or to F. H. Redewill, M.D., Secretary of the A.P.A.A., or to the sponsor, Mend Johnson & Co., Evansville 21, Indiana, U. S. A.

DURHAM HAS AIR AMBULANCE

Air Ambulance, Incorporated, announces that the Country's first C. A. A.-licensed air ambulance service was inaugurated at the Durham-Raleigh Airport, N. C., on September 21st by Governor Gregg Cherry and Dr. William M. Coppridge, President of the Medical Society of the State of North Carolina. The service provides fast and comfortable air transportation to patients or invalids to any part of the U. S. A., by a fleet of Cessna T-50 twin engine transports, specially re-outfitted as air ambulances. The equipment includes the Hess & Eisenhardt ambulance cot stretcher with foam-rubber mattress enclosed in sheet rubber, Emerson Resuscitator and Inhalator, plus attending drugs and equipment.

Beside the pilot who is equipped with full radio and blind flying instruments, there are accommodations for the patient on the cot, doctor or nurse alongside the patient and an extra seat for the patient's friend or relative. A registered flight nurse to accompany each patient is part of the service.

Automatic fire extinguishers are installed on each engine, reducing the fire hazard to a minimum.

THE NEUROPSYCHIATRIC INSTITUTE OF BALTIMORE is a *private* Out-Patient arrangement for the investigation and treatment of nervous, mental, emotional and personality illnesses.

While the institute does not provide hospitalization, facilities are available to arrange for the care of patients requiring partial, semi or complete protective environment.

Dr. Robert V. Seliger is the Medical Director, and the address is 2050 Park Avenue.

STREPTOMYCIN NOW AVAILABLE WITHOUT RESTRICTION

We are pleased to announce that the production of Streptomycin now is sufficient to permit the Civilian Production Administration to release this effective new drug for general distribution through regular drug trade channels. Now that restrictions on sales and distribution have been lifted, physicians may purchase Streptomycin from their local pharmacists.

Streptomycin also will continue to be available to physicians through their local hospitals.

Streptomycin Hydrochloride Merck is supplied in rubber-stoppered, aluminum-capped vials containing the equivalent of 1 Gm. (1,000,000 units) of pure Streptomycin base. Complete directions for use are enclosed in each carton.

DR. NEWBILL NAMED TO SUCCEED DR. J. S. DEJARRETTE

Dr. Joseph E. Barrett, commissioner of the State Department of Mental Hygiene and Hospitals, announces the appointment of Dr. Hugh Page Newbill as superintendent of State Sanatorium at Staunton to succeed Dr. J. S. DeJarnette, who resigned because of age and infirmities.

Dr. Newbill will take charge Jan. 1st. Dr. Newbill is assistant professor of psychiatry at the University School of Medicine.

Era in Norfolk in 1909, he received his elementary education in the public schools of Norfolk and Harrisburg, then attended the College of William and Mary, where he majored in chemistry, received his M.D. degree from the University of Virginia School of Medicine in 1934, following which he completed a year's internship at Norfolk Protestant Hospital. He spent a year at Harvard School of Medicine studying neuropathology and conducting research in this field.

Dr. Newbill returned to the University of Virginia Hospital as a resident, where he had supervision of all neuro-psychiatric patients.

From 1938 to 1943 he was instructor in neuropathology at Louisiana School of Medicine, following which he returned to the University of Virginia as assistant professor of neuropsychiatry.

DR. H. H. MENZIES announces the opening of *Menzies Private Clinic*, 101 South Cherry Street, Winston-Salem, North Carolina.

Practice limited to Obstetrics and Gynecology.

DR. THOMAS, V. GOURL, 3rd, recently released from the army after a period of high creditable overseas duty in the Medical Corps, has joined the staff of the H. F. Long Hospital.

MARRIED

Mrs. Daisy S. Guy and Dr. Wm. S. Judy, Greenville, S. C., were married on June 8th.

Miss Ruth Griffin of Charleston and Dr. E. O. White, Ehrhardt, were married on July 12th.

DIED

Dr. Mordecai Lee Barefoot, 63, one of the elder doctors of Harnett County, N. C., died November 18th, at the home of his brother, R. A. P. Barefoot, on Route 2, Dunn. He had been in ill health since 1938 when he retired from the active practice of medicine.

Dr. Barefoot is credited with establishing the first telephone in his community. He attended Campbell College, at Buies Creek, then taught at Holly Grove, Barefoot and Glenwood Schools. Later he entered the University of North Carolina, took classes at its medical school at Raleigh, and his degree in medicine at the University of Maryland.

Dr. S. R. Lucas, 61, of Florence, S. C. (Medical College of the State of South Carolina, 1910), died at the Columbia Hospital on October 5th. He had suffered a heart attack during the closing minutes of the Alabama-Carolina football game and expired a short time after he reached the hospital.

Dr. H. H. Workman, Woodruff, S. C., Medical College State of S. C., 1905, died October 10th. Dr. Workman was in general practice at Woodruff for 41 years.

Dr. Foster M. Routh, 61, of Columbia, died at Varnville, September 10th. Dr. Routh was a member of the executive committee of the South Carolina State Board of Health for many years. He served as resident physician at the University of South Carolina, and was a past president of the Columbia Medical Society. At one time he worked with the Rockefeller Sanitary Commission and the International Health Board. Dr. Routh was the first Health Officer of Greenwood County, and was for many years on the staff of Columbia Hospital.

Dr. Robert S. McGeachy's untimely death was due to the explosion of a gas water-heater in his basement on October 8th. He was born in Robeson County, Dec. 16th, 1871, attended Davidson College and was graduated in medicine by the Bellevue Medical School.

Prior to World War I, from 1896-1917, Dr. McGeachy practiced in Raleigh. Since leaving the service he served as public health officer in Greenville, Kinston and elsewhere. Since 1939 he had rendered valuable service as Craven County Health Officer.

Dr. John Thomas Strickland, 80, prominent Nash County, N. C., physician, died Nov. 27th after a long illness.

Dr. J. M. Lloyd, 51 (Mebarry, '94), Negro physician of Washington, N. C., died suddenly November 26th.

BOOKS

SURGICAL TREATMENT OF THE SOFT TISSUES: Supervising Editor, FREDERIC W. BANCROFT, A.B., M.D., F.A.C.S., Associate Clinical Professor of Surgery, Columbia University; Associate Editor, GEORGE H. HUMPHREYS, II M.D., Sc.D., F.A.C.S., Valentine Mott Professor of Surgery, Columbia University College of Physicians and Surgeons, and Director of Surgical Service, The Presbyterian Hospital, New York. With 244 illustrations. *J. B. Lippincott Company*, E. Washington Square, Philadelphia 5. 1946. \$15.

The editor says that in this volume some of the least standardized and yet the most difficult of surgical problems are helpfully covered. He is of the opinion that surgery of the soft tissues frequently constitute severer tests of the ability of the surgeon than do abdominal surgery and surgery of the motor-skeletal system.

It is assumed that the diagnosis has already been made. Wisely, attempt is made to describe, not all the methods, but only the best method to meet the indications.

First the perennial subject of hernia is elaborately discussed. Then superficial injuries, burns and freezing, infections, neoplasms, surgery of the arteries, veins and lymphatics. It appears to the reviewer that this is a work which has been long needed, and that the authors have well supplied the need.

CLINICAL METHODS OF NEURO-OPTHALMOLOGIC EXAMINATION, by ALFRED KESTENBAUM, M.D., Assistant Clinical Professor of Ophthalmology, New York University. *Grune & Stratton*, 443 Fourth Ave., New York City. 1946. \$6.75.

In this book may be found the substance of lectures delivered by the author to neurologists and ophthalmologists, presenting methods of examination in this field brought up to date. It is recognized that these methods fall into two groups: those to be practiced in offices and hospitals where all kinds of apparatus is available; and those which, while not so satisfactory, serve a useful purpose at the bedside. The author expresses his intent to present a review of the clinical methods of examination of the eye that may be helpful in neurologic diagnosis. Main emphasis is placed on the simpler methods of examination which may be utilized at the bedside generally.

NEW NATIONAL FORMULARY.—The Council of the American Pharmaceutical Association announces that the new, completely revised and enlarged National Formulary will be generally available after December 15th. This edition, the eighth published by the American Pharmaceutical Association since 1888, provides official specifications for many widely used drugs not previously included in either the U. S. Pharmacopoeia or the National Formulary. Copies of the new edition may be obtained from the Mack Publishing Company, 20th and Northampton Streets, Easton, Pennsylvania, at \$7.50 per copy.

MUSCLE TESTING—Techniques of Manual Examination, by LUCILLE DANIELS, M.A., Director and Associate Professor of Physical Therapy, Stanford University; MARION WILLIAMS, M.A., Assistant Professor of Physical Therapy, Stanford University; and CATHERINE WORTHINGHAM, M.A., Director of Professional Education, The National Foundation for Infantile Paralysis, Inc. Designed and Illustrated by Harold Black with 349 Diagrammatic Line Drawings. *W. B. Saunders Company*, Philadelphia and London. 1946. \$2.50.

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The records obtained from tests of the degree of muscular weakness resulting from disease, injury or disuse, provide a basis upon which to prescribe appropriate treatment and for reference if it is necessary to plan surgical reconstructions. Space has been left in the description of the tests for notes and the addition of further tests. It seems that the whole muscular system has been covered in detail, all the way from the neck muscles to the muscles of the fingers and toes.

The book must prove a valuable guide to physical therapists and orthopedists and of great diagnostic aid to pediatricians and general physicians.

THE CONTROL OF VENEREAL DISEASE, by R. A. VONDERLEIR, M.D., Director, District No. 6, United States Public Health Service, and J. R. HELLER, Jr., M.D., Chief, Venereal Disease Division, USPH. Foreword by THOMAS PARRAN, M.D., Surgeon General, USPH. Reynal & Hitchcock, 8 West 40th Street, New York 18, N. Y. 1946. \$2.75.

Most of us will be informed to learn that Marion Sims, in his presidential address to the American Medical Association in 1876, said: "I look upon syphilis as the great question of today. . . . It is no longer a problem for the therapist, but for the sanitarian, the philanthropist, the legislator, the statesman."

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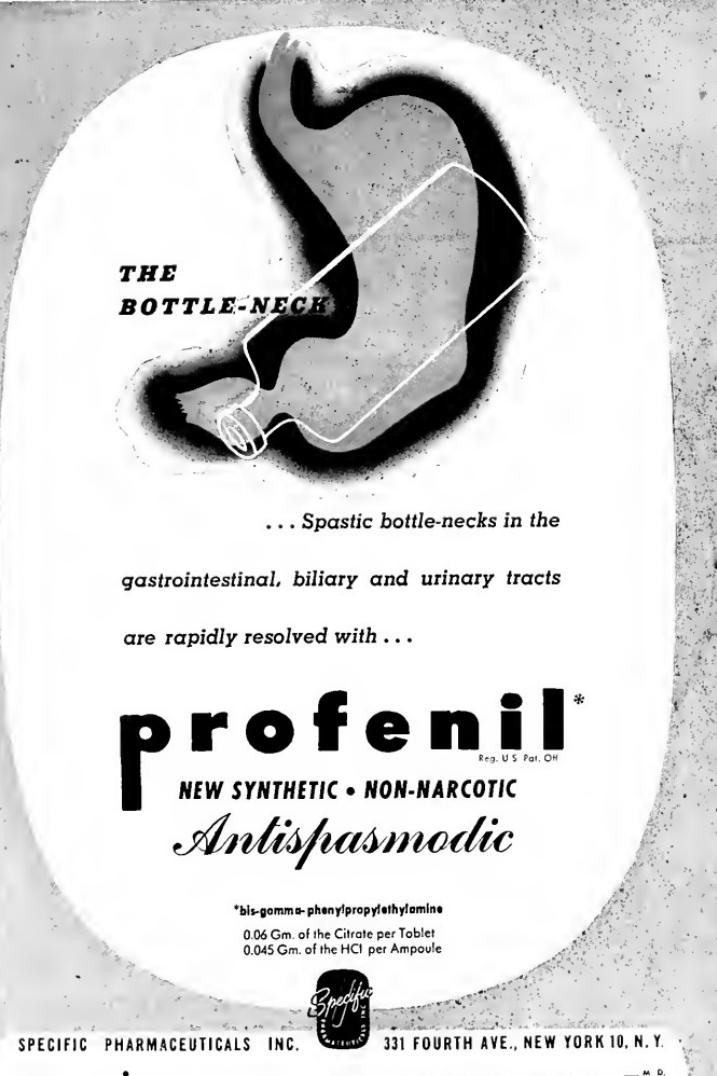
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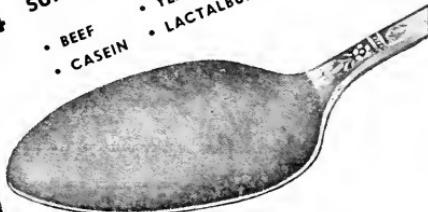
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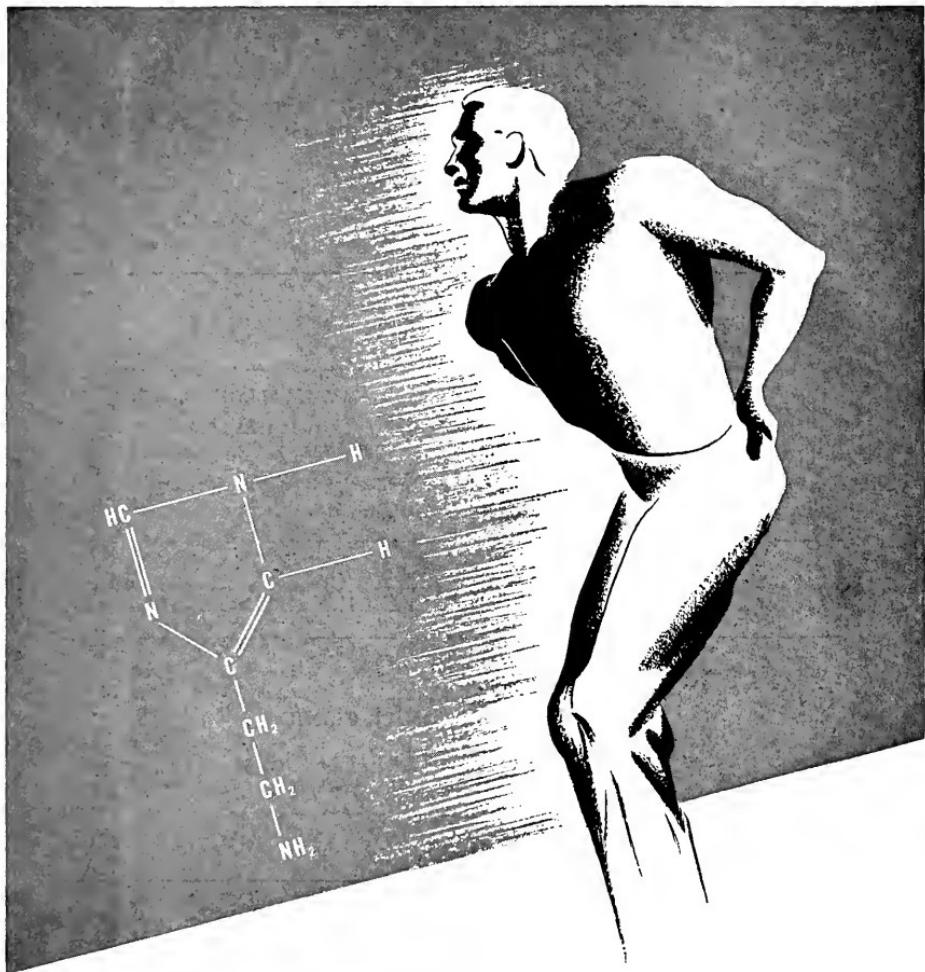


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